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By-Cleary, Florence D.; And Others

The Effect of a Librarian-Centered Reading Guidance Program on the Reading Skills and Habits of Elementary School Pupils. Final Report.

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The effects of a strong librarian-centered reading guidance program on the reading habits and skills of elementary school pupils were studied. Seventy-nine fifth graders in a rural Florida school were divided into three matched groups according to eye-movement photography scores. Experimental group A received a library reading guidance program and a 10-minute circulation privilege weekly. Group B had a scheduled library period, no formal reading guidance program, and a 10-minute circulation privilege each week. Group C had the 10-minute circulation privilege only. Subjects were pretested in September 1967 and post-tested in May 1968. Reading habits, interests, and attitudes were evaluated by an inventory which indicated marked changes favoring group A. The Durrell Analysis of Reading Difficulty, the Iowa Every-Pupil Test of Basic Skills, and the Gates Reading Survey measured reading skill changes. Subtest gains equally favored groups A and C, but the .05 level of significance was not reached. An .05 level of significance was found for group A in producing greater growth of the academically talented and less detrimental effects on the slower learners. The study concluded (1) that the traditional library period was ineffective, (2) that librarian-centered developmental reading guidance programs (K-6) were needed, and (3) that reading efficiency must be improved. (RT)

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THE EFFECT OF A LIBRARIAN-CENTERED READING GUIDANCE PROGRAM ON THE READING SKILLS AND HABITS OF ELEMENTARY SCHOOL PUPILS

by

Florence D. Cleary
Ruth S. Allen
Edmund E. Allen

University of South Florida

Tampa, Florida

August, 1968

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SUMMARY

The purpose of the study is stated as follows: to determine the effects of a strong librarian-centered reading guidance program on the reading habits and skills of fifth grade pupils in a rural Southern community.

The objectives of the program included guidance in reading in all curriculum fields, provision for wholesome adventures in personal reading, the extension of reading horizons, and opportunities for developing interest and skill in reading for enjoyment and intellectual stimulation.

Seventy-nine fifth grade pupils in one elementary school in a low socio-economic community were divided into three matched groups using eye movement photography scores.

The three groups were designated as Experimental Group A, Experimental Group B and Control Group C. Group A pupils received a full reading guidance program in the library one hour each week. Group B pupils were scheduled into the library for one hour each week but received no formal reading guidance program. Group C pupils did not have a scheduled period in the library but participated in creative art projects one hour weekly. All three groups had access to the library on an individual basis during one day each week for ten minutes.

All of the subjects were tested in September, 1967, and post-tested in May, 1968. Reading habits, interests and attitudes were evaluated by an inventory which indicated marked changes, all favoring Group A.

The Durrell Analysis of Reading Difficulty, Iowa Every-Pupil Test of Basic Skills and Gates Reading Survey tested for reading skill changes. Sub-test gains equally favored Groups A and C, but the .05 level of significance was not reached.

However, Group A was found to have produced a significantly greater growth of the academically talented at the .05 level on a chi square test. Similarly, Group A had a less detrimental effect on the slower learners, but this did not reach the .05 level.

Conclusions indicate that (1) the traditional library period is ineffective, (2) school coordinated, librarian-centered developmental reading guidance programs (K-6) are needed for evaluation and implementation, and (3) relative reading efficiency must be improved for maximum benefit to be received from library programs.

CHAPTER I

BACKGROUND OF THE STUDY

How to improve the reading achievement of the pupils in the nation's schools is one of the most compelling problems confronting teachers and school librarians.

Despite the innovations and experimentation pursued during the past four decades in methods and materials for promoting the skills, processes and arts of reading, the great debate about reading instruction continues. Meanwhile the extent of reading retardation among students increases and thousands end their formal education without the will or the skill to become mature readers.

According to investigators approximately 70 per cent of American adults may be considered functionally illiterate. They can read, but they don't.

The role of the school librarian in reading programs is not fully realized in many schools. He tends to be regarded as a media expert, the person who selects, organizes and makes available instructional materials. Important as this responsibility is, it is not the professional role for which he is educated, - that of a member of an instructional staff concerned and responsible for the learning of students and, in turn, for their reading.

The Purpose and Significance of the Study

The major purpose of the study, therefore, may be stated as follows: to determine the effect of a strong librarian-centered reading guidance program on reading habits and reading skills of fifth grade pupils.

Sound basic instruction is the foundation stone for learning how to read, but other aspects of an on-going program are equally significant: guidance in reading in all curriculum fields; provision for wholesome, inspiring adventures in personal reading; opportunity for developing interest in reading and the appreciations and habits of reading for intellectual stimulation and enjoyment. These are aspects of a coordinated and developmental reading program that need far greater emphasis than they now receive in reading programs in the public schools. (Appendix I)

It seemed fair to assume that nowhere in an already overcrowded curriculum can such needs and desirable learnings be more easily and effectively attacked than through a continuous developmental reading guidance program in the school library.

It was proposed, therefore, to conduct a scientific study to determine the statistical significance of the relationship between a strong librarian-centered reading guidance program and the reading habits and skills of fifth grade students in a school in a rural community in Florida.

Since research on the effects of an experimental, developmental reading guidance program in elementary school libraries with contaminating variables excluded is non-existent, it was assumed that the Study might offer statistical information that would be of value in planning or re-planning reading guidance programs in elementary school libraries.

Statements and recommendations from numbers of reading experts and researchers provide clear-cut evidence of the need and the significance of the Study.

Related Research

As a result of many years of study of reading instruction, William S. Gray postulated four aspects of a reading program as follows:

> "Sound, basic instruction in reading.
> Guidance in reading in the curriculum fields.
> Provision for wholesome adventures in personal reading.
> Special adjustment for the retarded or disabled reader."[1]

How, he asked, can people keep up with the world around them if they do not develop as children skill in reading, understanding of what is read, and enjoyment of reading? He recommended that the school must make ample provision for establishing the habit of reading regularly for enjoyment, intellectual stimulation, and elevated reading tastes. For the achievement of such purposes he advocated direct contact by the librarian with the students and personal and group conferences for reading guidance.

All four of Gray's purposes are relevant to reading guidance programs in the library. For the librarian to assume that he has no responsibility for basic instruction in reading would be rash indeed. The librarian needs to know the reading levels of his pupils, must be thoroughly conversant with reading methods and materials used in classrooms and prepared to give help to the student with his individual problems in reading for meaning and interpretation.

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[1] William S. Gray, "Improved Reading Programs," Education, LXXI (1951) 535-40.

The Harvard University staff, in the research project on reading in the elementary schools, surveyed reading instruction in all school systems in cities in the United States with populations exceeding 10,000. They interviewed administrative officers and teachers, and observed classroom instruction. From their data, they concluded that:

> ". . . present day reading programs were mediocre at best and not currently designed to produce a future society of mature readers."

This report found that reading programs in school libraries were not only mediocre but in many cases non-existent.

The Harvard staff recommended:

> "that a central library be established in every elementary school with the following provisions: (1) at least the minimum number of volumes recommended by the American Library Association; (2) books chosen by a selection committee headed by the teacher-librarian, and (3) a full-time certified teacher-librarian."

Austin and Morrison also stated that:

> "The extent to which a successful library program will substantially improve the total reading program cannot be overestimated."

Their conception of a full library program included:

> ". . . regularly scheduled visits, guided selection of books related to assignments, story telling by the librarian, browsing periods, specific training in the use of the library, and other activities."[1]

They maintain that in such instances the library is a positive educational force in the school.

While agreeing with the recommendations of the Harvard Study, the researchers in the present Study had been involved over a period of years in the type of library program as described by Austin and Morrison. In their judgment the efficacy of a fragmented program in the library has not been proven. Interest in books had been created but library experiences had been fragmented, and no clear cut coordinated developmental reading guidance programs initiated or evaluated. These observations appear relevant in suggesting the need for improved developmental, sequential reading guidance programs in elementary school libraries, grades K-6, not the fragmented experiences in the library as suggested in the Harvard report.

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[1] Mary C. Austin and Coleman Morrison, The First R. The Harvard Report on Reading in Elementary Schools (New York: Macmillan Company, 1963), pp. 2, 132, 232.

The Standards for School Library Programs, developed by the American Association of School Librarians, provides a detailed listing of quantitative standards and suggests briefly qualitative standards for evaluation of an adequate reading guidance program as follows:

> "Reading guidance in the school library embraces a variety of approaches which make reading meaningful, and also a voluntary activity for boys and girls. It involves the use of recordings, television and radio programs, films, and the theater. It includes book displays, book reviews by students in school publications, assembly programs, book talks, story telling, reading aloud, and many other techniques that are also effective."[1]

In June, 1968, an observer[2] at the meeting of the A.A.S.L. Standards Committee, for the revision of the current standards, reports on the excellence of the new quantitative standards for the selection and use of all communications media. In the observer's judgment, unless further revision takes place in the standards before their presentation to the various sponsoring groups, the recommendations for reading guidance programs are not startlingly different from those outlined in the Standards for School Library Programs of 1960. Without doubt the task of formulating specific objectives would presently be difficult, if not impossible, without more validated research as to the worth of such programs. Yet among library authorities there is growing agreement that as automation lightens the work load of the school librarian, his major responsibility will reside in the improvement of the arts and skills of reading.

Swarthout in her study of the librarian as a member of the instructional staff reveals the necessity for the librarian to take a more active role in reading programs as a member of the instructional staff, not exclusively as an organizer of learning materials. She also asserts:

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[1] American Association of School Librarians, Standards for School Library Programs, American Library Association, 1960, p. 18.

[2] American Association of School Librarians Standards Committee, notes taken at the meeting of June 28, 1968, American Library Association Conference, Kansas City, Missouri.

> "that the school librarian whose professional education insures him a real understanding of learning theory, curriculum theory and child development theory as well as a command of the materials of instruction is well qualified to plan effective reading programs, execute plans and evaluate results. Thus the library truly becomes a teaching - learning center."
>
> She deplores the fact:
>
> "that many librarians and even larger numbers of teachers have little conception of the real role of the school librarian in supporting and extending curriculum experiences in the classroom."[1]

Mary Virginia Gaver[2] noted that librarians have long made use of research on reading being carried on by educators and reading specialists, but that only recently has there been a build-up of any significant amount of research focused on the relationship which should exist between effective teaching of reading and the existence of libraries with reading programs at all levels. She implies that the nature of the research is predominantly documentary and survey.

Miss Gaver, under contract with the Cooperative Research Program of the U.S. Office of Education from January 1, 1959, to June 30, 1960, conducted an investigation to study the value of the elementary library program and to give suggestions for implementing the development of libraries in schools without them. This was primarily an exploratory or feasibility study. Although her sample was small (six schools), the collected data were found to be related positively to the provision of a school library with one exception, namely the quality of reading and the expressed interest in reading of the respondents. According to Miss Gaver:

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[1] Charlene R. Swarthout, "An Approach to an In-Service Program to Develop the Concept of the School Library as Part of the Instructional System " (Ed.D. Dissertation, Wayne State University, 1966), pp. 3-4, 284-285.

[2] Mary Virginia Gaver, "What Research Says the Teaching of Reading and the Library," The Reading Teacher, XVII (1963), pp. 184-191.

> "The hypothesis that the quality of reading done by children is related to the nature of library provision in the school is . . . not clearly substantiated by these six schools by the measure and rationale developed for this area of the investigation."[1]

Following up the exploratory feasibility study done by Miss Gaver, Saad M. El-Hargrasy researched the teacher's role in library service. He found that a teacher's reading habits and library background positively affect pupils' reading and library skills. His findings revealed that there is a significant statistical relationship between the reading interest and achievement of pupils and the quality of the reading background of the teacher and his skill in using library resources. His data also showed that of the many devices and techniques used in reading guidance activities pursued by teachers participating in the study, school librarians were involved in fewer than half of them - mute evidence of the need for school librarians to understand their roles and responsibilities in reading programs. According to Hargrasy, this was an unexpected finding which suggests that the field of school library service has many aspects that should be the subject of further investigation.

He indicated the difficulty of making experimental studies of reading with adequate sampling because of the difficulty of excluding contaminating factors which he listed as follows:

> "Community variables
> School variables (excluding teachers)
> Previous teachers
> Pupil backgrounds"[2]

Norman Chansky points to the same problem in experimental research in reading. He states:

> "Research could result in improved understanding of the role certain procedures play in establishing reading responses. . . . While many significant findings for reading have been made by research workers, there is a lack of unity in research in reading. The need exists for explorations which not only meet the criteria for statistical significance but also meet the criteria for educational relevance."

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[1] Mary Virginia Gaver, Effectiveness of Centralized Library Science in Elementary Schools (New Brunswick, New Jersey: Rutgers University Press, 1963), pp. 97-100.

[2] Saad M. El-Hargrasy, "The Teacher's Role in Library Service," Journal of Experimental Education, XXX (1962) 347-354.

Studies have revealed the many variables which are related to reading behavior. The majority of these studies have been exploratory. Now, it is time, Mr. Chansky states to study these variables and quantify the observations. To do this, reading research designs should be formulated with the design defining:

> " . . . the area of reading behavior which is to be scrutinized and consequently the generalizations to be developed."

In order to have predictive value, Chansky said that research projects in reading should consider:

> "the definition of 'reading',
> operational definitions of 'reading ability',
> the appropriate units of measurement,
> the statistical techniques which test the hypotheses."[1]

He concludes that the process of reading is so complex and that there are so many variables to be considered in a reading problem that precise statistical methods should be used in order to obtain refined predictions. He also emphasized the need for appropriate units of measurement.

Many of the current achievement tests in reading have come under scrutiny recently. "Timed" tests may not present a true picture of the child's reading achievement. In a study made by Earl Taylor, Director of the Reading and Study Skills Center in New York City, he states that:

> "While individuals may be enough alike to be taught together, it cannot be assumed that they will react in a similar manner to a particular stimulus or that their capacities to adapt are identical or that they will make equal progress."[2]

Taylor found also that there is wide variation in the functional efficiency of the eyes and/or body of individual members of a group. Hence many times pupils are penalized on "timed" tests not because they cannot interpret the printed work accurately but because they cannot read fast enough to keep up. Thus Taylor concluded that in schools where controlled reading training has not been used, the fundamental reading skills of only 40 per cent of pupils is satisfactorily developed.

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[1] Norman Chansky, "Problems of Research in Reading," Journal of Developmental Reading, VII (1963) 102-117.

[2] Earl A. Taylor, "Grouping Pupils and Adults in Terms of Sight Vocabulary and the Fundamental Reading Skill," Journal of Developmental Reading, VII (1963), 164-171.

This skill is defined by Taylor as an efficient habit of perceiving, organizing and interpreting printed materials in an orderly left to right sequence while making a minimum number of fixations and regressions with accurate return sweeps from the end of one line to the beginning of the next.

This study suggests that the use of an eye movement camera for testing reading efficiency is more accurate than the paper and pencil tests used in most testing programs.

The research as recorded on preceding pages suggests three assumptions, namely: (1) the need for experimental, controlled studies of librarian-centered reading guidance programs; (2) the limitation of the scope of such studies so that variables can be more successfully controlled, and (3) the use of a variety of means of measuring reading achievement and reading interest.

These assumptions were a part of the rationale which led to the hypothesis of the Study, namely: that there is a significant difference in the reading habits and skills of elementary school pupils exposed to a librarian-centered reading guidance program as compared with those elementary school pupils, comparable in all other respects, who are not exposed to a librarian-centered reading guidance program.

The Scope of the Study

The investigators recognized the limited scope of the study; seventy-five pupils in the fifth grade of an elementary school was a very small sample. Nevertheless they acted on the recommendations of the authorities as quoted previously in Related Research that such a pilot study could be made scientifically sound. One small aspect of the complex processes involved in promoting reading habits and reading skills might be studied in depth; namely, the effect of a librarian-centered reading guidance program on the reading habits and reading skills of fifth grade pupils.

To test the hypothesis: seventy-five fifth grade pupils were tested by an instrument described in Chapter II, under METHODOLOGY, and three matched groups were formed for participation in the Study. Two experimental groups and one control group were established in accordance with the Study design for library reading experiences.

Experimental Group A was provided a librarian-centered reading guidance program.

Experimental Group B was provided the traditional type of library experience.

Control Group C had no scheduled period in the library, but all three groups had free access to the library one day a week for circulation privileges.

In keeping with the limitations of time and human resources and in order to limit the teacher variable, no attempt was made to enlist the cooperation of the fifth grade teachers to promote teacher-skill in the use of library resources in their reading programs. This type of team teaching situation, librarian and teacher, needs validated study and research. It was not within the scope of the present Study.

The Setting of the Study

The participating school was selected for the following reasons: the interest of the school principal in the reading problem; the location of the school in a rural community in Florida; and the adequacy of the library room, its collection, resources, and the services of a certified school librarian.

Other factors appeared to make the setting typical of many schools in the rural South. Approximately ten per cent of the pupils in the school were Negro. The community could be classed as underprivileged socio-economically as the mean income in the county was $3300. A large percentage of the mothers of school children worked in citrus processing plants. The community was approximately twenty-five miles from the nearest large city. The school building was relatively new, attractive and not over-crowded. Ninety-four per cent of the pupils lived outside the village and buses brought them into the school each day. They had no near access to a public library.

A new, attractive library room had been built and furnished during the summer before the study began in September, 1967. Prior to this time the pupils had had inadequate library facilities in a corner of the lunchroom. A certified librarian had been employed half time and had selected, processed and organized an excellent library collection. These responsibilities together with a make-shift room for the collection had made it impossible for her to do little more than provide for the circulation of library resources to teachers and pupils.

A cursory examination of the tests and inventories given the week before the program began had prepared the investigators for the extent of retardation in reading achievement of the participants of the Study, and their apparent disinterest in books and reading. The data had not revealed the emotional immaturity of the pupils or the retardation in language and concept development attributable to their home environment. Their perception of their near community appeared confused, if not actually negligible. They had not been helped to "see, hear or be sensitive to."

The response of the Experimental Group A is illustrative. During their first library hour a question from the librarian, "What did you see on your way to school this morning?", brought looks of blank astonishment. She was attempting to discuss the question, "How do we find out?"[1] in order to emphasize such skills as observing, listening, reading.

The principal of the school had reported to the investigators that the parents appeared disinterested in attempts made by the school to improve the health and well being of their children. Few attended P.T.A. meetings. They were in no way aggressive, just apathetic regarding the education of their children. This situation was completely defensible in consideration of the living conditions which they endured. These people represented the silent segment of the nation, - the rural underprivileged communities of the South. Their difficulties arose from the fact that the time and energy of the parents had to be spent "in making a living" and in giving their children the bare necessities of life.

The Significance and Objectives of the Study

In this age of revolution in communications, mass media are changing American culture. Automation and electronics are giving men more leisure time which they do not appear to have found ways of using constructively. The use of fleeting pictures on a screen in effecting real learning is based on the stimulus-response theory of learning which has been discredited by many psychologists.

That audio-visual materials are powerful instruments for learning if properly used in the classroom needs little defense. The fact remains, however, that the person who reads "in depth" is not only knowledgeable but has at his command access to the record of man's most creative ideas, as well as the record of his accomplishment and his interpretation of the world around him. Better ways must be found to help the nation's youth to read at this level. Every avenue must be searched. Limited in scope as was the present Study, the researchers attempted to ascertain statistically:
(1) the possible effect on one group of fifth grade pupils of a guidance program that: emphasized the development of interest in books and reading, provided opportunities for pupil participation and involvement to move reading from a vicarious to a more direct experience, built appreciation of the magic of words as expressed in ageless and timeless literature, and the opportunity to explore values and to see the relationships of what they read to their own lives and to the society in which each individual has to find a

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[1] Florence D. Cleary, Discovering Books and Libraries (New York: H. W. Wilson Company),1966, pp. 11-17.

place for himself; (2) the determination of how significant the traditional library period is in the reading habits and skills of pupils; and (3) an estimation of the influence on reading habits and skills of pupils having no scheduled periods in the library, but access to the library for circulation privileges only.

To seek statistical evidence of possible and significant difference in the reading habits and skills of these three groups was the major purpose of the Study.

CHAPTER II

METHODOLOGY

In order to test the hypothesis as stated in Chapter I, it was proposed to use, according to the expected enrollment in September, 1967, ninety fourth and fifth graders in one elementary school. These pupils were to be divided into three matched groups of thirty students each.

When the enrollment of the school was being effected during the first week of the school year, the last week in August, 1967, it was determined that there would be approximately seventy-nine, not ninety, fifth graders. However, there would be three separate classes of the fifth grade. The fourth grade would total approximately eighty pupils divided into only two classes. To conduct the study with the total fourth grade and total fifth grade in the school chosen, as originally proposed, was impossible as the total number of students would be more than the study was set up to handle. Therefore, it was decided to use a normal arrangement of three fifth grade classes with a total of seventy-nine pupils as subjects of the research.

Grouping

These children were divided into three matched groups according to eye-movement photography scores converted into grade equivalents. The groups were designated as:

1. Experimental Group A which experienced a full-reading guidance program of one sixty-minute hour each week under the guidance of a qualified librarian.

2. Experimental Group B which visited the library for one sixty-minute hour each week under the supervision of a qualified librarian. This group had access to the books and materials there, but had no formal reading guidance program.

3. Control Group C which was not scheduled into the library as a group.

One school was used in order to control the socio-economic variable. The common background of these children is elaborated on in Chapter I. The sex variable was controlled by having, as far as possible, the same number of boys and girls in each group. However, because the reading eye camera deals with habits, neural processes and muscular development, the sex differences are not as significant as they would be with commonly used reading evaluations such as the *Durrell Analysis of Reading Difficulty*[1] and the *Iowa Every-Pupil Tests of Basic Skills*[2] for this age sample. In order to control the teacher variable, one-third of each classroom was placed in each of the three research groups.

Using the results of the eye-movement photography, each class, one at a time, was taken and arranged in a frequency distribution. The highest score from "X" classroom was placed in Group A, the next two highest scores were placed in Groups B and C, respectively.

In the "Y" classroom, the same procedure was used except that the highest score was placed in Group B and the next two highest scores were placed in Groups C and A, respectively.

The same procedure was used in the "Z" classroom with the highest score being placed in Group C and the next two highest in Groups A and B, respectively.

TABLE 1

ASSIGNMENT TO GROUPS BY RANK

"X" Class	A	B	C
	1	2	3
	6	5	4
	7	8	9
	12	11	10
	13	14	15
	18	17	16
	19	20	21
	24	23	22
	25	26	27
"Y" Class	B	C	A
"Z" Class	C	A	B

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[1] Donald D. Durrell, *Durrell Analysis of Reading Difficulty* (New York: Harcourt, Brace and World, Inc., 1955).

[2] H. F. Spitzer, et al., *Iowa Every-Pupil Test of Basic Skills* (New York: Houghton Mifflin Company, 1965).

This procedure was followed until all the scores were placed in groups. Shifts between groups in order to equalize sexes was accomplished by shifts of equivalent score individuals, i.e., two people of the same score of opposite sex were shifted from one group to another. After this was accomplished pupil names were matched with scores and assignments to groups were made. (Appendix II)

Because of the mobility of today's population a policy needed to be established at the beginning of the study concerning possible drop-outs or additions to the fifth grade after the pre-testing program had been accomplished. It was decided to allow new students to be included in all three groups so as not to disrupt the school's schedule any more than necessary. The size of these groups would be kept as even as possible. Only those pupils both pre- and post-tested would be used in the statistical analysis.

Testing

Description of test instruments:

The Durrell Analysis of Reading Difficulty was administered individually and consisted of two main sections, reading and words. The reading section was divided into two parts, oral reading and silent reading. The oral reading section consisted of the following:

Eight paragraphs with comprehensive questions.
Check lists for observation of phrase reading, word skills, voice, enunciation and expression and general reading habits.
Norms for oral reading level.

The silent reading section consisted of the following:

Eight paragraphs, equal in difficulty to the oral reading paragraphs.
Provision for recording unaided and aided oral recall.
Check lists for mechanics of silent reading, characteristics of recall, comparison with oral reading.
Questions for checking imagery.
Norms for silent reading level.

The second main section, words, was divided into four parts: (1) listening comprehension tests, (2) word recognition and word analysis, (3) words and (4) spelling. The listening section consisted of seven paragraphs, one for each grade level with comprehension questions. The word recognition and word analysis section used flash cards with separate norms and check lists for recognition and analysis. The section on words consisted of:

Tests for visual memory of word forms.
Identification tests for primary grades.
Writing from memory for intermediate grades.
Norms for both tests.

The spelling section included two spelling lists, one for primary and one for intermediate grades with norms for both tests.

The Iowa Every-Pupil Test of Basic Skills, Test B: Work-Study Skills--Form O, consisted of five sections: (1) map reading, (2) use of references, (3) use of the index, (4) use of the dictionary, and (5) reading graphs, charts and tables. The map reading section required the:

Ability to visualize the represented area in its natural plane and to read direction correctly.
Recognition and interpretation of standard map symbols.
Identification and visualization of symbols with the use of a key.
Ability to get facts and information for parallels and meridians.
Ability to apply physical facts to map situations.
Ability to read and interpret facts from pattern maps.

The use of references section required subjects to:

Recognize questions, the answers to which may best be found in atlases or maps.
Recognize questions, the answers to which may best be found in dictionaries.
Recognize questions, the answers to which may best be found in encyclopedias.
Recognize questions, the answers to which may best be found in specific sources such as textbooks, globes, government publications.

The use of the index required the ability to alphabetize and the use of the dictionary required:

The ability to alphabetize.
The knowledge of symbols used.
Familiarity with pronunciation keys.

Reading graphs, charts and tables required subjects to:

> Comprehend from the title the topic on which a graph gives information.
> Recognize from subtitles and row or column headings what is shown by each part of a graph.
> Read amounts from a graph.
> Compare two or more values read from a graph or table.
> Determine trends as shown on a line graph.
> Realize that percentages and proportions do not give absolute amounts.
> Determine underlying relationships through correct interpretation of a graph.
> Grasp outstanding facts portrayed by a graph.
> Determine rank from an unordered list, graph or chart.

The Gates Reading Survey[1] was administered, in addition to the Durrell and Iowa tests proposed by the researchers, on the advice of the Reading Coordinator of the Developmental Center, University of South Florida, as an added evaluation instrument. As described by the manual, the survey consisted of three sections: (1) a speed and accuracy test, (2) a reading vocabulary test, and (3) a level of comprehension test. A brief explanation of each section is as follows:

> The speed and accuracy test consisted of thirty-six paragraphs of substantially equal difficulty, each of which contained a comprehensive exercise to determine whether it had been understood. The time was limited with the result that the score (number of correct exercises) represented the speed of reading. The accuracy reading score was the percentage of the exercises attempted which were correct.
>
> The vocabulary test consisted of sixty-five items, each of which presented a key word accompanied by five other words from which the one whose meaning was nearest that of the key word was chosen. The exercises were arranged in order of difficulty. The test measured the range and difficulty level of the pupils' ability to work out the recognition and meaning of words.

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[1] Arthur I. Gates, The Gates Reading Survey (New York: Bureau of Publications, Teachers College, Columbia University, 1960).

> The level of comprehension test consisted of twenty-one passages arranged in order of increasing difficulty. The influence of speed of reading, which was measured by the speed and accuracy test, was eliminated by allowing the pupil as much time as he could profitably use, fifteen to twenty minutes in the lower grades, eight to fifteen minutes in the upper grades. This test indicated how complex and difficult a passage the pupil could comprehend with reasonable thoroughness.

The Eye-Movement Photography Test was used involving the use of the Reading Eye Camera through which a picture of a person's eye movements while reading captures a reflection of the reading process on film. Much is learned about a person's basic organization and effectiveness through an analysis of the pattern his eyes make on film. (See Appendix III for more detailed information.)

Pre-testing

Beginning August 28, 1967, the first day of the school year, all subjects' eye movements were photographed by the Reading Eye Camera operated by an especially trained student assistant from the University of South Florida. The first day fourth grade material was used but because 70 per cent comprehension was not being achieved, the decision was made to use the third grade material for all subjects.

During this week, the students were also tested individually using the Durrell Analysis of Reading Difficulty by reading specialists holding Master's Degrees.

On August 31, 1967, all students at the same time were seated in the cafetorium of the school and given the Iowa Every-Pupil Test of Basic Skills, Test B: Work-Study Skills--Form O. This was administered by the Grant Principal Researcher (Reading Consultant) assisted by University of South Florida student assistants as proctors.

September 6, 1967, was devoted to retests as necessary on the Reading Eye and testing as far as possible those few students who were missed due to absence on the original days of testing.

During the week of September 4, 1967, the reading eye graphs were analyzed, scored and converted into grade equivalents. (See Appendix III) The frequency distributions were made, the groups were formed, and the first sixteen weeks period of the program was begun on September 11, 1967.

As the pupils met in their respective groups for the first time, reading inventories were given. (Appendix IV)

The inventory had been developed by the investigators to find out as much as possible about the current reading interests and habits of the subjects of the research. In addition items were included from Jersild's Interest Finder[1] that would give the investigators more insight into the pupils' needs, hobbies, interests, leisure time activities, wishes, and their reactions to the school program.

Post-testing

Following the thirty-two weeks of the program, the subjects were all tested using the Durrell Analysis of Reading Difficulty administered individually. This was accomplished during the week of May 13, 1968. The same administrators were used, but they did not in all cases test the same subjects they had pre-tested.

On May 16, 1968, the Iowa Every-Pupil Test of Basic Skills, Test B: Work-Study Skills--Form O was administered to all subjects at the same time in the cafetorium of the school by the same pretester. This test was proctored by University of South Florida personnel.

Beginning on May 13, 1968, the pupils' eye movements were also photographed. These scores were not used for evaluation purposes but the post-testing was done to see how much, if any, improvement had been made during the year. The third grade level was used in order to maintain the same anchor frame of reference.

During the week of May 20, 1968, the testing was completed after necessary Reading Eye rechecks were administered and absentees from the previous week were tested using the Durrell and Iowa.

Program

Program Schedule:

The schedule was set up as follows in two phases of sixteen weeks each:

Monday, 10:00 to 11:00 A.M.	- Group A went to the library. Groups B and C had study halls.
Wednesday, 10:00 to 11:00 A.M.	- Group B went to the library. Group A had a study hall. Group C had a project.

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[1] Arthur T. Jersild and Ruth J. Tasch, Children's Interests and What They Suggest for Education (New York: Bureau of Publications, Teachers College, Columbia University, 1949).

During the second sixteen week phase which began January 29, 1968, the above procedure was reversed:

Monday, 10:00 to 11:00 A.M. - Group B went to the library.
Group A had a study hall.
Group C had a project.

Wednesday, 10:00 to 11:00 A.M. - Group A went to the library.
Groups B and C had study halls.

One day a week (Thursdays in the first phase and Fridays in the second phase) the library was open to all three groups for circulation of books on an individual basis. They were not encouraged to go to the library that day, rather they were allowed to go if they so desired. This arrangement was made in order to determine if there would be any difference between the groups in their use of the library determined by individual motivation. A record of book circulation was kept which included the number of books checked out in each category by each group (A, B, C) and the number of pupils from each group who checked out books. (Appendix IV)

Experimental Group A Activities - Full-reading guidance program:

Prior to the project the researchers had done considerable preplanning of what they considered an effective librarian-centered reading guidance program for fifth grade pupils of average abilities. Desirable learnings were specifically formulated and a variety of appropriate means devised. The objectives of the program for Group A were as follows:

Development of interest in books and reading.
Provision for individual guidance in the selection of books for leisure reading.
Creation of rich foundations for understanding and appreciating the story of children's books, their history, and present development.
Opportunities for pupil participation and involvement that moves reading from a vicarious to a direct experience.
Instruction and demonstration of library skills as means - not ends, as keys and instruments for gaining access to information and knowledge.
Appreciation of the magic of words, their sounds, colors and meaning.
Extension of the social studies curriculum into reading experiences in the library.
Exploration and development of values through identification with characters and situations in books.

Heavy emphasis was placed by the librarian on the last objective which dealt with the development of values. During the year the pupils in Group A used the following questions in talking about books:

What was the most exciting incident in the book?
How would you feel if it happened to you?
Would you like to have been the main character
in the book? Why?
What did the story mean to you?
How did the book make you feel?
What did you learn?

Extensive daily records of activities pursued during the library period were kept on punch cards. (Appendix I)

The categories covered were:

Using reference books
Location of current material
How to locate books in the library
How to use and enjoy books
Techniques for guidance
Curriculum relationships
Activities pursued by the pupils

After each Group A library period the librarian used a punch card which she dated and then punched beside the activity or activities which had occurred that day. The activities were interrelated and overlapping by design in order to achieve the stated objectives. For example, the dictionary was not taught as an isolated lesson. It was related to the study of words, their sound and meanings, use of words in poetry and the meanings of the pupils' given names. In so far as possible, all activities were conducted in this manner. (Appendix IV)

Prizes were given at the end of the year for the best poetry renditions, collages, reading records and library social studies notebooks.

For more detailed information concerning the Group A program objectives and activities, see Appendix I)

Thirteen work sheets (Appendix IV) used in obtaining pupil reactions to library experiences were among the evaluation devices prepared and used to support the program of Group A:

1. Reading Records.
2. Reading Wheel.
3. A Reading Inventory.
4. Circulation Records (Library Register, Book Circulation During Regular Library Periods and Independent Circulation)
5. Pupil Reactions to experiences at the Tampa Book Fair. (Unsigned Questionnaire)
6. Informal Reading Inventories - 4th[1], 5th[2], 6th[3] Grade Levels.
7. Finding current materials. (The Reader's Guide)
8. Circles of Knowledge. (The Encyclopedia)
9. Locating Books on Library Shelves. (Library Work Sheet)
10. Between the Covers of a Book. (Parts of a book)
11. Questions to Think About. (Book Discussions)
12. Words, Words, Words. (The dictionary)
13. What is your Opinion? (Unsigned Questionnaire)

The reading wheel coupled with reading records (Appendix IV) was developed by the investigators to encourage interest in reading over a broad area. As the children read and supposedly finished books they noted them by number in the record, recording the titles and authors and including a brief note concerning the books' contents. The numbers were then placed on the reading wheels in as many areas as the books covered. The areas covered by the reading wheel were:

Humor
How to do it
Lands, rivers, rocks, trees
Fairy tales
Classics
Comics
Mystery
Poetry
Biography
Our State
Our Country
School
Home and Family
Romance
Other lands
Travel and transportation
Exploration
Games and amusements
Space
Careers and occupations
Inventions
Sports
Other animals
Horses and dogs

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[1] Emmett A. Betts, C. M. Welch, *Betts Basic Reader, Grade 4* (Cincinnati: The American Book Company, 1965),p. 289.

[2] *Ibid., Grade 5*, 153-154.

[3] *Ibid., Grade 6*, 343-345.

[4] Florence D. Cleary, *Discovering Books and Libraries* (New York: H. W. Wilson Company, 1966), pp. 38-39.

It was proposed to give the pupils of Group A time for and assistance in choosing and checking out books at the end of each scheduled library period. These were recorded in the following Dewey decimal classifications:

Fiction
Reference
Biography
Easy
100 - Philosophy
200 - Religion
300 - Sociology
400 - Philology
500 - Science
600 - Technology (Applied Sciences)
700 - Art
800 - Literature
900 - History

Group A also had access to the library one day a week for individual circulation of books.

Experimental Group B Activities - Traditional library program:

The objective for this group as planned by the researchers was to provide as nearly as possible the traditional library period that is experienced by the majority of elementary school pupils across the country.

Group B pupils were scheduled into the library for one sixty-minute period a week for:

The selection of books
Individual reading
Circulation of books

On request, the librarian provided individual guidance in the selection of books. Occasionally, over the thirty-two week period, a film or filmstrip was shown. There was neither a pre- nor post-discussion period connected with these films or filmstrips. The filmstrips shown were:

"Time of Wonder"
"Stone Soup"
"Meaning of Thanksgiving"
"Christmas Around the World"

The films shown were:

"Story of a Book"
"Woodland Indians"

The pupils were allowed to browse, use reference books, read, study and check out books. There was no formal reading guidance program. The circulation figures for Group B's library period were recorded in the same manner as those for Group A. One day a week Group B had access to the library for individual circulation.

Group B wrote book reviews, without instruction from the librarian, and drew pictures illustrating books they had read. This was a voluntary activity. Prizes were given at the end of the year for the better reviews and illustrations.

Control Group C - No scheduled library periods:

The objective as planned for this group by the researchers was to conduct a program for one sixty-minute hour each week which included a project. This was planned so that Group C would have only one study hall each week, the same as Groups A and B. The project was not to be related directly to reading in any way whatsoever. The University of South Florida field workers in library and audio-visual education working with this group were instructed that reading as an activity or library reference use was not to be mentioned at all. The activities participated in by the members of Group C were:

- Physical activities out of doors
- Viewing of science filmstrips:
  - Man and the Orderly Universe
  - The Telescope and Birth of the Science
  - What are Stars?
  - The Age of the Earth and of Living Things
  - Exploring Sounds
  - Light and Color
  - Understanding Chemical Change
  - Your Sense of Touch
  - Your Sense of Smell and Taste
  - Atoms and Molecules
  - The Ocean
- Drawing sessions with background music
- Origami (Japanese art of folding paper into shapes)
- Corn pictures (kernels of corn painted and arranged into mosaic type pictures)
- Egg shell faces (made with blown-out egg shells)
- Egg shell mosaics (crushed egg shells painted and arranged in a design or picture)

Pupils used imagination and skill in developing their individual products and prizes were given for the better examples of corn pictures, egg shell faces and egg shell mosaics. Group C also had access to the library one day a week for individual circulation.

Independent circulation:

All the pupils had access to the library the same day each week for the purpose of checking out books. The library was open the entire school day. Upon individual request, the classroom teachers allowed, not encouraged, pupils to go to the library whenever there was free time in the classroom schedule or when the students had finished their work. The pupils normally remained in the library about ten minutes but were allowed to reamin longer with the permission of their teacher. The librarian gave assistance only upon request.

Circulation figures were also kept and recorded under the same classification system as the figures for the Groups A and B library periods. (Appendix IV). In order that the total sample would not be aware that circulation figures were being kept according to the research groups, each fifth grader coming into the library that day signed a register (Appendix IV), recording his name, grade, teacher's name and the types of books he checked out. At the end of the day, the principal investigator was able to determine, by matching the register with the lists of group members, how many members of each group checked out books and under what classifications these books fell.

CHAPTER III

FINDINGS AND ANALYSIS

SECTION I

READING HABITS

The major goal of the Study was to determine the effects of a librarian-centered reading guidance program on the habits and skills of a group of fifth grade pupils.

The findings from the testing program, from inventories, records and observations are detailed on subsequent pages. This chapter is divided into two sections, Section I, Reading Habits, and Section II, Reading Skills. Section I, therefore, reports in relation to reading habits, such aspects of reading behavior as reading interests, circulation records, the opinions and reactions of the participants of their reading experiences in the library and their leisure time preferences. The term habit is defined as a mode of growth, of occurrence, an increased facility of performance, a behavior pattern.

A questionnaire entitled A Reading Inventory (see Appendix IV) was given to the participants at the beginning and completion of the Study to obtain reactions to their wishes, their reading interests and their reading habits.

Table 2 reveals the wishes expressed by the three groups in September, 1967, in response to the question, "My three wishes: What are they?" Data are reported under nine categories.

TABLE 2

READING INVENTORY
"My three wishes: What are they?"

SEPTEMBER, 1967

Categories	Percentage		
	Group A	Group B	Group C
Ownership of material items	37	47	33
Being out of school	13	5	13
Being healthy	6	1	0
Being wealthy	5	5	5
Vocational expectations	4	11	3
Imaginative	15	24	38
Being smart	4	3	6
Family relationships	16	3	2
No response	0	1	0

Ownership of material items ranked first in Groups A and B and second in C; imaginative wishes also had numerous responses.

TABLE 3

READING INVENTORY
"My three wishes: What are they?"

CHANGE IN RESPONSES OF SAMPLE BETWEEN
SEPTEMBER, 1967, PRE-TEST AND MAY, 1968, POST-TEST

Categories	Percentage		
	Group A	Group B	Group C
Ownership of material items	-18	-13	- 7
Being out of school	- 9	+ 3	- 8
Being healthy	- 3	- 1	+ 3
Being wealthy	+ 3	+ 1	0
Vocational expectations	+15	- 3	+12
Imaginative	+13	+ 7	-11
Being smart	+10	+ 7	+ 7
Family relationships	-11	0	+ 4
No response	0	- 1	0

Table 3 shows the changes in the responses to the same question concerning wishes between September and May inventories. In the category, "being smart", there was a uniform change in all groups. Consequently, it would be logical to assume that this was due to maturation. The change in the desire for ownership of material items was a noticeable one between the three groups with Groups A and B registering the greatest deemphasis which is considered a positive growth. Although there was evidence of maturation, there was a differential influence found between groups.

In the instance of four categories of wishes, "being out of school", "vocational expectations", "imaginative", and "family relationships", there was a noticeably different change between groups. Since in each of these responses at least one group changed in the opposite direction of the other two, the difference of experiences of each group (not maturation) is considered responsible. Groups A and C showed a drop in responses in May in the number who wished to "be out of school." Since authorities believe that a child's wishes often reflect his motivations and attitudes, it would appear that the Study experiences of Groups A and C may have been more productive than those of Group B. The noticeably different changes in the categories of "imaginative" wishes favor Groups A and C, whereas the decreased attention for "family relations" as noted for Group A indicates a broadening of interests developed by the library guidance experience.

Leisure Time Preferences

To a question, "What do I like to do best outside of school?", pupils were asked to respond to five possible preferences and to rank them in order of their choice. The following table shows their rank of choices by percentages in September, 1967.

TABLE 4

READING INVENTORY
"What do I like to do best outside of school?"

SEPTEMBER, 1967

Group/ Choices Provided	Rank of Choice by Percentage				
	1st Choice	2nd Choice	3rd Choice	4th Choice	5th Choice
A					
Play games or sports	20	28	24	16	12
Watch T.V.	40	24	24	12	0
Talk to friends	4	12	32	32	20
Go to movies	28	28	16	12	16
Read	8	8	4	28	52
No response	0	0	0	0	0
B					
Play games or sports	30	23	23	12	12
Watch T.V.	35	12	27	22	4
Talk to friends	0	35	19	23	23
Go to movies	8	18	27	12	35
Read	27	12	4	31	26
No response	0	0	0	0	0
C					
Play games or sports	44	20	16	12	0
Watch T.V.	24	36	12	4	4
Talk to friends	4	8	28	32	8
Go to movies	12	12	20	24	8
Read	8	4	4	12	60
No response	8	20	20	16	20

Table 5 shows the change of the groups in their first and second choices between the September and May inventories in their responses to the question, "What do I like to do best outside of school?"

TABLE 5

READING INVENTORY
"What do I like to do best outside of school?"

CHANGE IN RESPONSES OF SAMPLE BETWEEN SEPTEMBER, 1967, PRE-TEST AND MAY, 1968, POST-TEST

Choices Provided	Percentages First and Second Choices		
	Group A	Group B	Group C
Play games and sports	+ 6	+ 9	+ 7
Watch T.V.	-38	- 1	-22
Talk to friends	+38	0	+26
Go to movies	-31	- 3	- 5
Read	+26	- 5	+12
No response	0	0	-23

There were three major changes all of which were particularly applicable to Groups A and C. These groups decreased 38 per cent and 22 per cent in "T.V. viewing" while increasing 26 per cent and 12 per cent in "reading" and 38 per cent and 26 per cent in "talking to friends." This has considerable significance particularly to those involved in reading and library programs. An increased concern has been developing over the national trend among youth to move away from reading of books to T.V. viewing. The research demonstrated that the traditional library experience of Group B, which recorded a drop of 5 per cent in reading, did not counteract the influence of television. The library reading guidance program of Group A was almost twice as effective as the Group C experience. It is also noted that the library program of Group A with a 31 per cent decrease in interest in movies far exceeded the 3 and 5 per cent decrease in Groups B and C respectively.

Because reading interests and habits are the subject of this research, Table 6 deals exclusively with the changes by groups in the choice of reading as a leisure time activity.

TABLE 6

READING INVENTORY
"What do I like to do best outside of school?"

RANK OF CHOICE IN READING
CHANGE IN RESPONSES OF SAMPLE BETWEEN
SEPTEMBER, 1967, PRE-TEST AND MAY, 1968, POST-TEST

Group	Choices - Percentages				
	1st	2nd	3rd	4th	5th
A	+17	+ 5	+19	-15	-27
B	- 8	+ 3	+ 4	-12	+13
C	+16	- 4	+15	+ 7	-27

A consideration of the change between the pre- and post-inventory period in rank of reading (first and second choices) as a leisure time activity indicates a positive change of 22 per cent for Group A, a positive change of 12 per cent for Group C, but a negative change of 5 per cent for Group B. Again this points out the ineffectiveness of the traditional library program in effecting interest in reading as a leisure time activity.

Amount of Time Spent in T.V. Viewing

To the question in September, 1967, "How many hours a day do you spend watching T.V.?", responses can be noted in Table 7.

TABLE 7

READING INVENTORY
"How many hours a day do you spend watching T.V.?"

SEPTEMBER, 1967

Choices Provided	Percentage		
	Group A	Group B	Group C
3 or more hours	76	61	73
1 to 2 hours	24	35	12
Do not watch T.V.	0	0	8
No T.V.	0	4	4
No response	0	0	3

Table 8 records the changes in the response of the groups between the September and May inventories to the question, "How many hours a day do you spend watching T.V.?"

TABLE 8

READING INVENTORY
"How many hours a day do you spend watching T.V.?"

CHANGE IN RESPONSES OF SAMPLE BETWEEN
SEPTEMBER, 1967, PRE-TEST AND MAY, 1968, POST-TEST

Choices Provided	Percentage		
	Group A	Group B	Group C
3 or more hours	-11	- 2	-11
1 to 2 hours	+ 7	+ 6	+26
Do not watch T.V.	0	0	- 8
No T.V.	0	+ 4	- 4
No response	+ 4	0	- 3

The percentage of pupils watching T.V. more than three hours a day dropped 11 per cent for Groups A and C and 2 per cent for Group B from September, 1967, to May, 1968.

Reading Activity

In order to determine the possible extent of the pupils' reading and their reactions to the books, three questions were asked on the Reading Inventory. These were, "Are you reading a book now?", "Did you like the book?" and "If your reply was yes, why did you like it?"

TABLE 9

READING INVENTORY
"Are you reading a book now?"

MAY, 1968

Choices Provided	Percentage		
	Group A	Group B	Group C
Yes	77	67	71
No	19	33	29
No response	4	0	0

To the question "Are you reading a book now?", in May, 1968, 77 per cent of Group A was reading a book, 67 per cent of Group B, and 71 per cent of Group C. Again we see that the experience for Group A was most productive and the experience for Group B was less productive.

TABLE 10

READING INVENTORY
"Did you like the book?"

MAY, 1968

Choices Provided	Percentage Group A	Group B	Group C
Yes	92	85	95
No	8	7	5
No response	0	8	0

With reference to the question, "Did you like the book?", very little change took place in Groups A and B in terms of the pre-inventory. Group C, however, increased from 81 per cent liking the book to 95 per cent. In this instance, both in terms of the pre- and post-tests, Group B had a lower per cent reported in liking the book.

Following the question "Did you like the book?" was: "If your reply was yes, why did you like it?" For all three groups the responses in September tended to be very general in nature, such as "it was interesting", "I like books about horses." In the post-inventory, Group A revealed a notable movement toward a variety of specific responses such as: "I like all Meindert De Jong books", "I would have ended it differently", "the children were thoughtful of each other."

As was noted in Chapter II, whenever pupils in Group A discussed books they were subjected to a number of questions. This experience may have resulted in some modification of habits in ability to conceptualize and to be more specific in their evaluation of books.

Selection of Books

In attempts to determine factors that influenced the actual selection of a particular book by the respondents, the question "How did you happen to read this book?" was included in the inventory. September responses are found in Table 11.

TABLE 11

READING INVENTORY
"How did you happen to read this book?"

SEPTEMBER, 1967

Choices Provided	Percentage Group A	 Group B	 Group C
Found it myself in the library	61	42	23
Found it at home	0	23	35
Suggested by a teacher	0	4	31
Suggested by the librarian	31	8	0
Suggested by a friend	8	12	0
Other	0	8	4
No response	0	3	7

In order to understand the data in Table 12 (changes between pre- and post-inventories) the difference in the frames of reference between Group A and Groups B and C as reflected in the September inventory (Table 11) should be reported. Group A had had one hour in the library prior to the September Inventory; Groups B and C had not had any access to the library. Consequently, this was reflected in higher initial choices for Group A in the area, "Found it myself in the library," and probably accounted for the 31 per cent response in the area, "Suggested by a librarian," as opposed to 8 per cent for Group B and none for Group C in that category. In the area, "Found it myself in the library," Groups B and C were probably responding with reference to their previous year's experience.

TABLE 12

READING INVENTORY
"How did you happen to read this book?"

CHANGE IN RESPONSES OF SAMPLE BETWEEN
SEPTEMBER, 1967, PRE-TEST AND MAY, 1968, POST-TEST

Choices Provided	Percentage Group A	 Group B	 Group C
Found it myself in the library	-17	+28	+29
Found it at home	+12	-12	-16
Suggested by a teacher	+ 4	- 4	-17
Suggested by the librarian	-19	- 8	0
Suggested by a friend	+12	- 1	+ 5
Other	+ 8	- 4	- 4
No response	0	+ 1	- 7

In terms of the requirements of the Study design, pupils in Groups B and C were to receive no help in book selection from the librarian except at their request; consequently, it was not surprising that Group B recorded fewer requests for help by the librarian and that Group C recorded no change. There can be an explanation to the drop in Group A's response to "Suggested by the librarian." At the completion of the Study, the pupils in this Group (librarian-centered reading guidance program) were much more competent in the use of the library. They also knew what type of books they wanted to check out. The assistance needed by them from the librarian was to actually locate a specific book (many times already checked out).

Group A individuals introduced many books as part of their experimental program. These books always circulated. This would account for the higher number of "Suggested by a friend" responses in Group A and a lower number of "Found it myself in the library" responses.

Identification with Book Characters

One question that elicited a variety of responses from all three groups was, "Did you ever try to act like a character in a book?" This was done to test how many of the pupils identified with the characters in the books they read.

TABLE 13

READING INVENTORY
"Did you ever try to act like a character in a book?"

Choices Provided	Percentage					
	September, 1967			May, 1968		
	Group A	Group B	Group C	Group A	Group B	Group C
Yes	52	42	42	76	63	71
No	32	54	50	24	37	29
No response	16	4	8	0	0	0

At the end of the program in May, 76 per cent of Group A gained the advantage of identification with characters in the books they read. Group C ranked second with 71 per cent. The traditional library program of Group B was the least effective with 63 per cent.

Apparently, the emphasis on relating to book characters in the librarian-centered program made little difference. The ability to personalize and identify with book characters may be a matter of maturation.

Circulation Statistics

Accurate records were kept of the circulation of books (the number of books that reached the hands of the pupils).

Groups A and B had a scheduled library period once a week, while Group C did not. All three groups had free access to the library one day a week.

TABLE 14

TOTAL BOOK CIRCULATION, TOTAL TIME AVAILABLE AND AVERAGE NUMBER OF BOOKS CIRCULATED PER MINUTE BY GROUPS FROM SEPTEMBER, 1967, TO MAY, 1968

Group	Total Book Circulation			Average time for Circulation	
	No. of books circulated during scheduled period	No. of books circulated on free access day	Total no. of books circulated	Total no. of minutes available for book circulation	Average no. of books circulated per minute
A	807	929	1736	415	4.18
B	1054	777	1831	1650	1.10
C	Not Applicable	936	936	300	3.12

Figures in Table 14 show that easy accessibility to books appears to be a most significant factor in the number of books circulated to pupils. The limitation of access to the library for Group C cut the circulation almost 50 per cent lower than the other groups. However, other factors appear to operate as well. The pupils in Group A were given 115 more minutes for circulation than were those in Group C, but they charged out 800 more books than did Group C. Circulation to Group B exceeded Group A by 95 books but the time Group B had for circulation exceeded Group A by 1,235 minutes. Considering the average amount of time per minute allowed for circulation, Groups A and C made far more profitable use of the time allotted for circulation than did Group B, which was provided the traditional library experience that operates in a majority of elementary school libraries. It would appear that motivation for reading is a very meaningful factor.

Types of Books Read

An analysis of the types of books read as listed in Table 15 reveals little variation between the three groups, with fiction the heavy favorite.

During the scheduled library periods, five minutes on the average for A and fifty minutes for B, Group B pupils circulated more books than Group A in the areas of biography, fairy tales and legends, science and technology. Group A circulated more books in the literature area than did B, probably as a result of the heavy emphasis placed on the reading of poetry for enjoyment in the reading guidance program.

During the free access period, two areas seemed to distinguish the circulation progress of Group C from the other two groups. These were easy books and science, indicating that the Group C experience activated the academically talented but caused a lowering of confidence in the library by the slower learner.

Table 15 should be analyzed in consideration of the difference in the time given the two groups to select and circulate books during the scheduled library periods. The figures for Group A represent 23 opportunities to charge out books for from 0 to 10 minutes at the close of the library period. For Group B, the figures represent 50 minutes for 27 weeks to select and circulate books. The lack of time at the close of the hour for Group A occurred because of other reading guidance activities underway such as creative dramatics or poetry contests.

Teacher Evaluations

It was impossible to obtain the fourth grade teacher evaluations of all the subjects because either the teacher was no longer available or the pupil had attended a school outside of the area during the previous year.

Teacher evaluations were made at the end of the Study, and it appeared that the Hawthorne Effect applied equally to all three groups which could very easily account for there not being even more significant differences found in changes in reading skills. The fifth grade teacher observations of the total sample did tend to validate the findings of the report which were arrived at entirely separately.

For the Principal's evaluation, see Appendix V.

TABLE 15

TOTAL BOOK CIRCULATION BY GROUPS
IN ORDER OF CLASSIFICATION CHOICE

Classification symbol or number/ Classification	Scheduled period in library		10 minute free access time in library			Total
	Group A	Group B	Group A	Group B	Group C	
F/Fiction	333	397	433	368	376	1907
500/Science	59	116	75	55	108	413
B/ Biography	78	113	74	62	58	385
300/Sociology*	49	104	66	61	56	336
800/Literature	89	44	69	49	70	321
600/Technology	36	91	48	44	60	279
900/History	47	54	59	45	70	275
700/Fine Arts	21	60	46	48	56	231
E/Easy Books	55	56	18	6	47	182
R/Reference	5	13	22	16	16	72
200/Religion	21	15	13	9	8	66
400/Philology	13	3	3	11	7	37
100/Philosophy	1	1	3	4	4	13
Total	807	1067	929	778	936	4517

*Fairy tales and legends

CHAPTER III

FINDINGS AND ANALYSIS

SECTION II

READING SKILLS

While Section I of this chapter is based on a *description* of the effect of the librarian-centered reading guidance program on the reading *habits* of fifth grade elementary school pupils, Section II deals with a statistical analysis of the Reading Test findings in terms of relative changes between pre- and post-test for reading *skills*.

TABLE 16

MEAN SCORES OF ALL THREE GROUPS ON
THE DURRELL ANALYSIS OF READING DIFFICULTY

SEPTEMBER, 1967

	Reading		Words			
Group	Oral	Silent	Listening	Flash	Analysis	Spelling
A	4.62	4.325	4.375	5.666	5.295	3.625
B	4.562	4.208	4.291	5.912	5.500	4.000
C	4.373	3.987	4.130	5.804	5.430	3.652

TABLE 17

MEAN SCORES OF ALL THREE GROUPS ON
THE IOWA EVERY-PUPIL TEST OF BASIC SKILLS,
TEST B: WORK-STUDY SKILLS--FORM O

SEPTEMBER, 1967

Group	Map Reading	References	Index	Dictionary	Graphs	Total
A	4.909	4.517	3.483	4.417	5.387	4.530
B	4.809	4.832	3.800	4.845	4.805	4.532
C	4.786	4.582	3.668	4.468	4.923	4.400

TABLE 18

MEAN SCORES OF ALL THREE GROUPS ON THE GATES READING SURVEY

SEPTEMBER, 1967

Group	Speed	Accuracy %	Vocabulary	Comprehension	Average
A	5.013	83.130	4.686	4.956	4.886
B	5.413	85.826	4.904	4.960	5.095
C	4.950	82.363	4.963	4.936	4.945

However, before proceeding with this analysis it would appear appropriate to present findings in two areas: (1) the effectiveness of the Reading Eye as a grouping instrument, and (2) the academic standing of the total sample. When the means as presented in Tables 16, 17 and 18 for the Durrell, Iowa, and Gates tests respectively are viewed, it can be noted that although the sub-areas within any one test have some variability in a number of instances, each test, when considered as a total unit, resulted in very similar average scores for each group. This would support the use of the Reading Eye as a group equating instrument. An observation that is also worthy of mention is that the total fifth grade sample generally fell below national norms for the average of the sub areas of each test as presented in Tables 16, 17 and 18. This supports the observation, as noted in Chapter I, that the population studied was academically below the national norm in reading achievement. The mean chronological age of each group as determined was: Group A, 10 years, 5.7 months; Group B, 10 years, 4.5 months; Group C, 10 years, 4.7 months.

The analysis of variance comparing the changes resulting between Groups A, B and C as measured by the Durrell, Iowa and Gates instruments (the latter having been used as mentioned in Chapter II upon the advice of the Reading Coordinator) did not yield any significant difference for the three research groups at the .05 level. Therefore, the test for homogeneity of variance was not run as had been proposed since no purpose would be served.

After running the analysis of variance, the distribution of scores was studied. This revealed some very deviant scores. Accordingly, a non-parametric chi square median test was run although the grant proposal did not include it. There was still no significance at the .05 level. Consequently, there is no statistical verification that the experiences as listed resulted in significant changes in skills as determined by the criteria of the fifteen sub-tests of the above-named instruments.

TABLE 19

SIGNIFICANT DIFFERENCES FOUND IN COMPARISON OF THE MEAN CHANGES BY GROUPS BETWEEN SEPTEMBER, 1967, PRE-TEST AND MAY, 1968, POST-TEST

Test	Analysis of Variance	Chi Square
Durrell Analysis of Reading Difficulty		
Reading:		
Oral	N.S. .05	N.S. .05
Silent	N.S. .05	N.S. .05
Words:		
Listening	N.S. .05	N.S. .05
Flash	N.S. .05	* Sig. .12
Analysis	N.S. .05	N.S. .05
Spelling	* Sig. .08	N.S. .05
The Iowa Every-Pupil Test of Basic Skills, Test B: Work-Study Skills--Form O		
Map Reading	N.S. .05	N.S. .05
Use of References	N.S. .05	N.S. .05
Use of Index	N.S. .05	N.S. .05
Use of Dictionary	N.S. .05	N.S. .05
Use of Graphs	N.S. .05	N.S. .05
Gates Reading Survey		
Speed	N.S. .05	N.S. .05
Accuracy	N.S. .05	N.S. .05
Vocabulary	N.S. .05	N.S. .05
Comprehension	N.S. .05	* Sig. .13

* In these instances only, Durrell word flash and spelling and Gates comprehension, was there significance at the .12, .08 and .13 levels though not at the generally accepted .05 levels. At the levels given, however, there is a significant difference in these three sub-tests

The .12 level of significance found in the "word flash" section of the Durrell is attributed to a more productive experience by Group A whose mean increase was .537 as opposed to the .320 and .226 of Groups B and C, respectively.

The .08 level of significance found in the "spelling" section of the Durrell is attributed to the low $\bar{X}$ .625 for Group B as compared to $\bar{X}$ 1.125 of Group A and $\bar{X}$ 1.217 of Group C.

The .13 level of significance found in the Gates "comprehension" section is attributed to the low $\bar{X}$ .047 for Group A as compared to $\bar{X}$ .317 of Group B and $\bar{X}$ .431 of Group C.

Whenever a pilot study is conducted and the direction of the results support the research assumptions, a full scale research is warranted even when the .05 level of significance is not reached. This is due to the fact that a pilot study normally does not contain large enough samples. Accordingly, the tendencies toward improvement which were found are indicated in Table 20.

TABLE 20

TENDENCIES TOWARD MAXIMUM IMPROVEMENT OF RESEARCH GROUPS RELATIVE TO EACH OTHER AS INDICATED BY THE DURRELL, IOWA AND GATES TESTING INSTRUMENTS

Sub-Tests	Durrell	Iowa	Gates
Oral Reading	C		
Silent Reading	C		
Listening	C		
Spelling	C		
Flash	A		
Analysis	A		
Map Reading		B	
Use of References		B	
Use of Graphs		B	
Use of Index		A	
Use of Dictionary		A	
Vocabulary			C
Comprehension			C
Speed			A
Accuracy			A

Tables 21, 22, and 23 show the mean and median changes of the sample between the September, 1967, pre-test and the May, 1968, post-test of the Durrell, Iowa, and Gates tests respectively. Although the mean and median gain are both tabulated in the tables, the following discussion deals only with the mean change.

Table 21 covers the mean gain of the three groups (A, B and C) in the six sections covered by the Durrell Analysis of Reading Difficulty. This reveals that Group A made a maximum gain in the word section dealing with word recognition and analysis. Group B made no positive gain over either Groups A or C in any section, whereas, Group C made a greater gain in the reading section dealing with oral and silent reading and in the word section with listening and with spelling. This alerted the researchers to the probability that the traditional library period is not productive in these areas of the Durrell.

Table 22 indicates the mean gain of the three research groups in the six sections covered by the Iowa Every-Pupil Test of Basic Skills. This reveals that Group A made more gain in the use of the index and the dictionary, while Group B made a more positive gain over the other two groups in map reading, use of reference books, and use of graphs. However, Group C did not have a positive gain over either Group A or B in any of the five areas covered by the Iowa Every-Pupil Test of Basic Skills. Children of this age and background seem to search out atlases and encyclopedias, and the hour-long undirected library period allowed the pupils time to do this. No explanation can be given for the higher improvement of Group B on the use of graphs unless it was a secondary gain from the other two variables i.e., map reading and references.

Table 23 , showing the mean gain of the three groups (A, B and C) in the four areas included in the Gates Reading Survey, reveals that Group A made a more positive gain in speed and accuracy. Group B did not excel in any of the areas covered by this test instrument. Group C's gain was superior in the areas of vocabulary and comprehension. This also supports the probability that the traditional library period is not productive in the four areas covered by the Gates.

Therefore, it can be seen that Group B's experience did not result in a maximum gain in the sub areas of the Durrell or the Gates. In order to reach conclusions from these data one must study carefully the sub-areas of each test and decide which areas are critical to the growth of the pupils. This will be elaborated on in Chapter IV.

TABLE 21

MEAN / MEDIAN CHANGES OF SAMPLE BETWEEN SEPTEMBER, 1967, PRE-TEST AND MAY, 1968, POST-TEST DURRELL ANALYSIS OF READING DIFFICULTY

Group	Reading		Words			
	Oral	Silent	Listening	Flash	Analysis	Spelling
A	.462 / .325	.504 / .35	.50 / .6	.537 / .35	.545 / .3	1.125 / 1.1
B	.608 / .616	.579 / .425	.708 / .8	.320 / .15	.341 / .27	.625 / .6
C	.756 / .69	.708 / .75	.782 / .9	.226 / .25	.304 / .28	1.217 / 1.25

TABLE 22

MEAN / MEDIAN CHANGES OF SAMPLE BETWEEN SEPTEMBER, 1967, PRE-TEST AND MAY, 1968, POST-TEST THE IOWA EVERY-PUPIL TEST OF BASIC SKILLS, TEST B: WORK-STUDY SKILLS--FORM O

Group	Map Reading	Use of References	Use of Index	Use of Dictionary	Graphs	Total
A	.856 .9	1.252 1.0	2.774 2.8	1.213 1.1	.883 .7	1.348
B	1.177 1.3	1.400 1.45	2.386 2.45	.677 .7	1.168 .916	1.409
C	1.025 .85	.786 .475	2.373 2.3	.723 .7	.845 .683	1.227

TABLE 23

MEAN / MEDIAN CHANGES OF SAMPLE BETWEEN
SEPTEMBER, 1967, PRE-TEST AND MAY, 1968, POST-TEST
GATES READING SURVEY

Group	Speed	Accuracy	Vocabulary	Comprehension	Average
A	1.4 1.1	.691 .416	.491 .35	.047 .016	.647 .55
B	1.304 1.5	.361 .03	.469 .40	.317 .25	.686 .75
C	1.322 1.2	.355 .08	.659 .90	.431 .50	.804 .916

Examination of the respective mean changes, Tables 21, 22 , and 23, reveals that the program of Group A (librarian-centered reading guidance program) exceeded the other two groups (B and C) in the following seven areas: word recognition, word analysis, use of the index, use of the dictionary, speed and accuracy.

Group B's traditional library period exceeded Groups A and C in the areas of map reading, use of reference, and use of graphs.

The findings for Group C reveal that this group experience exceeded Groups A and B in the areas of vocabulary, comprehension, oral reading, silent reading, listening and spelling.

Comparison of the mean gain as opposed to the median gain also has some meaning. For example, if the mean gain of one group is high on a certain test score such as accuracy on the Gates, whereas the median gain is low for that group, researchers would come to realize that there is a skewed distribution. A highly positively skewed distribution indicates that the experiences facilitated the growth of the academically talented to a marked degree, whereas a highly negatively skewed distribution points toward the fact that the experience places the slower learner at a disadvantage. Accordingly, this is a factor which should be considered in designing coordinated developmental reading guidance programs in the library. Since this analysis was not included in the grant proposal, it is discussed more fully in Appendix VI.

The research as conducted did not support the hypothesis that: there is a significant difference in the reading skills of elementary school pupils exposed to a librarian-centered reading guidance program as compared with those elementary school pupils, comparable in all other respects, not exposed to a librarian-centered reading guidance program.

The null hypothesis that there is no significant difference in the changes between pre- and post-tests on the reading achievement scores of Groups A and B and Control Group C cannot be rejected.

CHAPTER IV

CONCLUSIONS AND RECOMMENDATIONS

Reading Habits

The Reading Inventory revealed a higher percentage of positive change for Group A in the following areas:

1. More emphasis on reading and interaction with friends as opposed to T.V. viewing and attendance at movies as leisure time activity.
2. More sophisticated and effective functioning in the library.
3. Greater circulation of books in terms of opportunity provided.
4. More mature daily wishes and interests. This change applies to the result of better reading habits rather than to a description thereof.

Group B, the traditional library period, made the least progress in all of the above-mentioned areas. It is therefore concluded that in all the areas evaluated by the Reading Inventory, the librarian-centered reading guidance program (Group A) resulted in the greatest growth in terms of reading habits and reading interests and the traditional library period (Group B) made the least growth. Group C fell between Groups A and B and closer to Group A in terms of the findings on the Reading Inventory.

Reading Skills

The .05 level of significance with regard to the mean changes on the 15 sub-areas of the reading skills test used was not reached. The mean improvement was mathematically greater for each group as indicated in the following sub-test areas:

GROUP A	GROUP B	GROUP C
Speed	Map Reading	Oral Reading
Accuracy	Use of References	Silent Reading
Word Recognition	Use of Graphs	Listening
Word Analysis		Spelling
Use of Dictionary		Vocabulary
Use of Index		Comprehension

We can observe that in terms of reading skills the groups not only differed in the number of areas where the greater mean improvement was realized but also that the nature of these areas differed. This brings us back to the same conclusion reached earlier in terms of reading habits that the traditional library period (Group B) is less effective and that the next phase of research needs to be the integration of types of experiences found in both Groups A and C in proportion to the deficiencies found in the population selected.

In relation to the comparison of the mean and median changes it was discovered that the research experiences differentially influenced the academically talented and the slower learners on the fifteen sub-areas tested. It can be seen from the findings (see Appendix VI) that Group A not only enhanced the growth of the academically talented more but also inhibited the slower learners less. It is noted that the relative influence of Groups B and C on the academically talented and slower learners was equally less effective than Group A. Significance on the Chi Square test was found at the .05 level. In this aspect also it is concluded, therefore, that the program of Group A (librarian-centered reading guidance program) was the most effective. This directs our concern not only toward an integrated program that would produce a maximum growth in all of the various sub-areas but also another very important dimension, i.e., a program which would best serve the various levels of individual academic aptitude.

Attitudes Toward Reading

In interpreting the findings relative to the changes in reading habits and skills one should consider the attitude variables that developed intrinsically similar to those normally discussed as the Hawthorne Effect. Groups A and C were found by the school staff as well as the researchers to be involved and enthusiastic; the main difference being that Group A's enthusiasm was more oriented toward the library and reading areas while Group C became very enthusiastic about the projects scheduled during the equivalent time. Since both Groups A and B were scheduled for one period into the library plus ten minutes free time, Group C felt some deprivation which it is believed resulted in a more zealous utilization during their ten minute free access time than Group B of the library facilities. Group B which had no organized program in the library and no project became quite apathetic. It is concluded that these attitudinal changes contributed as much to the findings in both Section I and II of Chapter III as the conditioning and educational learning aspects of the three experiences.

Summary Conclusions:	Summary Recommendations:
1. The traditional library period experienced by Group B and existent in many elementary schools is neither "fish nor fowl." In both evaluated areas, reading habits and skills, the findings revealed that this experience was the most ineffective of all of the three group experiences.	1. It is recommended that each elementary class be scheduled into the library for two one-half hour periods a week. One period should be devoted entirely to reading guidance (see Appendix Program given Group A). During the second weekly period the pupils should be guided by the librarian in book selection, should have time to browse, read, practice library skills, and check out books.
2. The fact that the mean changes are not significant could be attributed to the size of the sample, but it is also concluded that the length of the experience was also insufficient. Therefore, this Study demonstrated that librarian-centered reading guidance programs must begin much sooner than the fifth grade, for the purpose of establishing good foundations of reading habits and interests.	2. School coordinated developmental librarian-centered reading guidance programs should be started in the first grade (kindergarten if possible). This is especially true in this day and age when the practice of reading to one's children seems to be on a great decline.
3. As developed in Appendix children who do not like to read but who have an average or higher I.Q. tend to have very low relative reading efficiency scores as a result of physical problems with eye movements or poor eye movement habits in relation to the reading process. This relative efficiency must be improved in the elementary school for pupils to receive a maximum benefit from library programs.	3. In order for the type child described in the third summary conclusion to have a maximum benefit from a librarian-centered reading guidance program, a reading acceleration program including appropriate correctional apparatuses should be available to train eye movements in their relation to the reading process.

Based on the findings as reported in Chapter III and Appendix III the following recommendation is made for those elementary school administrators who wish to have a reading program of optimum benefit to all pupils: The relative efficiency of pupils' eye movements in reading should be determined and a correctional program instituted where it is deemed necessary. This coupled with the classroom teaching of reading which is coordinated with a developmental reading guidance program (K through 6) in the library should provide the optimum conditions for a total school reading program.

Further longitudinal research along these lines is strongly indicated. Such a Grant Proposal (No. 8-0830) has been submitted by the authors.

APPENDIX I

LIBRARIAN-CENTERED READING GUIDANCE PROGRAM

EXPERIMENTAL GROUP A

2

APPENDIX I

LIBRARIAN-CENTERED READING GUIDANCE PROGRAM
EXPERIMENTAL GROUP A

Program

The reading guidance program as pre-planned by the researchers differed markedly from library programs offered in many elementary schools where scheduled library periods are a part of the organization of the school. In these schools the experiences provided pupils in the library tend to be fragmented rather than sequential and developmental. Pupils select books, do individual reading and at the close of the period charge out books. Other activities are provided, such as story telling, viewing a film and instruction in the care of books and the use of the library. These are the activities suggested by the A.A.S.L. Standards and other authorities for reading guidance.

During the pre-planning period, the assumptions on which the program for Group A were based are stated as follows:

1. One learns to read and reads to learn.
2. Experiences in the library should be sequential and developmental.
3. Reading is a passive experience.

Assuming that one learns to read and reads to learn, each library period should provide motivation for learning that effects changes in ways of thinking, believing and doing. Therefore, in planning the program the librarian would take into account good learning theory, child development theory and curriculum theory. He would formulate specific learning objectives for each period, devise appropriate means and evaluate results.

Taking into account sequential and developmental experiences in reading, the librarian would make both long-term and short-term plans as well as formulate general and specific objectives. Recognizing the fact that so general an objective as the development of reading interest and habits may be a by-product of more specific objectives, emphasis was placed on such goals as: understanding the history of childrens books, the story of authorship and printing, instruction in the use of library tools as means rather than ends and examination of characters and situations in books in order to help pupils reflect on what they read, to make judgments and to explore values.

On the assumption that reading is a passive experience, another objective of the program was related to the motivation of reading through active participation and involvement in many activities on the part of the pupils which would move reading from a vicarious to a direct experience.

Modifications to the program were expected and were made as the researchers came to recognize the severe limitations in the experience and interest of the pupils who composed Group A. However, the assumptions and objectives on which the program was based remained the foundation stone and general direction of the program.

Findings and Observations

Following the pre-testing period the researchers were able to make only a cursory examination of the findings from the Reading Inventory. This prepared them for the lack of interest in reading as a leisure time activity but not for the apathy, emotional immaturity or deviate behavior of the group.

Observation of the pupils' reactions during the first two library periods revealed their rejection of books usually liked by average fifth grade pupils and their lack of interest in book introductions and discussion of books. It became startlingly clear that (1) experiences with books must generate a real emotional impact in these pupils and (2) their present interests should be exploited in building bridges to more rewarding experiences with books.

Recognizing their consuming interest in T.V. the librarian used the currently popular names of Ajax, Mercury, Phoenix, The Flying Red Horse to move them into the old myths and legends, literature entirely missed by these pupils in their previous reading experiences. The stories read aloud by the librarian followed by their first experiences with creative dramatics laid the foundations for moving toward the achievement of stated objectives of the program.

During the class periods, thirty-two different guidance devices were used and recorded on punch cards. (See page 61) The tables that follow reveal the number and variety of devices used to achieve desirable learnings for pupils. The devices are categorized under the objectives as stated in Chapter II.

TABLE 24

INDIVIDUAL GUIDANCE IN SELECTION OF BOOKS FOR LEISURE READING

Devices Used	Number of times used
Individual guidance at the close of the period in selection of books for leisure reading	23
Book introductions	10
Publicity devices such as displays, exhibits and lists	17
Recommendations of books by pupils	26

TABLE 25

FOUNDATIONS FOR UNDERSTANDING THE STORY OF BOOKS FOR BOYS AND GIRLS[1]

Devices Used	Number of times used
Displays of facsimiles of horn books and pocket book	1
Displays and discussions of dedications, colophons and printers marks	1
Discussion of authorship and publishing	1
Discussion of book clubs	3
Discussion of Newbery and Caldecott Awards	2
The story of printing	1
Use of films and filmstrips:	
"The Story of a Book"	1
"The Story of Printing"	1
Discussion of the great oral traditions, legends and folklore	1
Discussion of the history of childrens' books	1

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[1] Florence D. Cleary, Discovering Books and Libraries (New York: H. W. Wilson Company, 1966),p. 21.

TABLE 26

DEVELOPMENT OF INTEREST IN BOOKS AND READING

Devices Used	Number of times used
Reading aloud by the librarian	16
Book discussion by pupils	10
Use of A.V. materials	8
Book discussions led by the librarian	11
Individual guidance in the selection of books	23

TABLE 27

OPPORTUNITIES FOR PUPIL PARTICIPATION AND INVOLVEMENT IN THE PROGRAM

Devices Used	Number of times used
Keeping reading records	16
Recording type of books read on reading wheels	16
Book introductions and discussions by pupils	4
Creative dramatics	5
*Making lists of favorite books	1
*Making murals and collages	1
*Poetry contest	3
*Creative writing	2
Listening to stories read aloud	16
Making title pages of a book they might write	1
Visiting the Tampa Book Fair	1

*These activities were entirely voluntary and continued throughout the year as one of their favorite out of school activities. Creative returns were displayed in the library and cafeteria.

TABLE 28

INTRODUCTION AND DEMONSTRATION OF LIBRARY SKILLS AS KEYS AND INSTRUMENTS FOR USING BOOKS AND LIBRARIES

Devices Used	Number of times used
Discussion of favorite magazines and their contents	3
*Use of Readers Guide	3
*Use of card catalog	2
Practice in locating books on shelves	28
*The Dewey Classification System	3
*Parts of a book	3
Maps and Atlases	1
*Alphabetizing and indexing	1
*Encyclopedias	1
Use of filmstrips	2
*Dictionary	3

*Work sheets were made available and 95 per cent of the pupils finished them outside of the library period and turned them in. Mistakes were discussed in the subsequent library period.

In attempts to develop listening skills, vocabulary, encouraging pupils to see, to hear and to be sensitive to the world around them, the following devices were used.

TABLE 29

APPRECIATION OF THE MAGIC OF WORDS

Devices Used	Number of times used
Reading poetry aloud (librarian)	2
Listening to poetry for words, expressing color, sound and sights.	2
*Making lists of favorite words	3
*Examining meaning of their given names in the dictionary	1
Verse speaking	2
Creative writing	1
Arrangement and use of the dictionary	1

*These items were the means used for instruction in the contents and arrangement of contents of the unabridged dictionary.

TABLE 30

EXTENSION OF SOCIAL STUDIES CURRICULUM INTO MORE MEANINGFUL LEARNING THROUGH READING EXPERIENCES IN THE LIBRARY

Devices Used	Number of times used
Introduction of historical fiction	12
Introduction of biography and books of information	3
Locating and organizing information	2
*Motivation for creative writing about historical events and people	2

*Creative returns included such writing as "I was a Boy with Balboa," and a number of poems about the discovery of America.

TABLE 31

EXPLORATION AND DEVELOPMENT OF ATTITUDES AND VALUES THROUGH IDENTIFICATION WITH CHARACTERS AND SITUATIONS IN BOOKS

Devices Used	Number of times used
Role Playing	4
How, Why and What would you have done?, questions about characters and situations in books	15

Group Reactions to the Program

At the close of the Study a questionnaire, "What is your opinion?" was given to the pupils in Group A. They were asked not to sign their names. Findings are as follows:

The question, "Do you think you read more books this year than last year?", was asked regarding their opinion as to the extent of their reading during the year as compared with the previous year. Eighty-four per cent responded "more this year" and 16 per cent responded "fewer this year."

In an effort to get a reaction about their enjoyment or lack of enjoyment of the library period during the Study, the question "Did you enjoy your library periods?" was asked. Eighty per cent responded "yes", none responded "no" and 20 per cent responded "sometimes."

To ascertain reactions to the means used to achieve the objectives of the program, the following table reports their reactions:

TABLE 32

WHAT IS YOUR OPINION?
"Among some of the things we did in the library, check
1, 2, 3, 4, 5 in order of those you liked best."

Choices Provided	Percentage 1st Choice	2nd Choice	3rd Choice	4th Choice	5th Choice
Creative dramatics	16	27	19	23	15
Watching films and filmstrips	38	35	8	8	11
Listening to stories	34	8	39	15	4
Having books introduced	0	19	19	15	47
Talking about books	12	11	15	39	23

The use of films and filmstrips to introduce books or categories of books such as myths and legends was ranked first. Seventy-three per cent of the group ranked it their first and second choices.

Creative dramatics stood high in their preferences - 42 per cent ranking it first and second choices. Thirty-four per cent reported listening to stories as their first choice, and the observation of the researchers would support this percentage figure.

To the question, "Of all the things you did in the library, what did you enjoy doing most? Check 1, 2, 3, 4, 5 in order of preference." The following data were revealed:

TABLE 33

WHAT IS YOUR OPINION?
"Of all the things you did in the library,
what did you enjoy doing most?"

Choices Provided	Percentage 1st Choice	2nd Choice	3rd Choice	4th Choice	5th Choice
Making collages and murals	50	19	12	15	4
Reading poems	31	35	15	12	7
Introducing books	8	15	12	27	38
Talking about books	11	12	42	27	8
Doing social studies projects	0	19	19	19	43

Among all the activities engaged in by the group, their voluntary involvement with graphic representations of books was ranked first by almost half of the pupils.

The least popular guidance activity was a social studies project. No respondent ranked it first and 43 per cent ranked it fifth among their preferences. Some explanation of these findings should be attempted. The librarian had little communication with the classroom teachers as this would have provided a contaminating variable. Instead, pupils were asked about the subjects under study in their social studies classes. Appropriate books of fiction and biography were introduced from time to time in efforts to create more enthusiasm for the subject. Creative writing "on" such topics as "I was a Pilgrim" or "I was a boy with Cartier" was also motivated. The creative returns from these projects were negligible as shown by the data and by the observation of the researchers. Whether or not it created interest in the actual reading of books cannot be determined.

Freedom in selection of poetry and verse speaking stood second in rank of pupil preferences in library activities, - sixty-six per cent of the respondents ranked this activity as their first and second choices. The statistics relating to the circulation of books in the 800's give evidence of the interest in poetry. (Chapter III)

To the question, "Do you remember any one library period you liked the most this year? What did we do?", a number of their comments may be cited:

"Seeing the film, 'The Story of a Book.'"
"Listening to 'you' read."
"When we read the poems that we had chosen as our favorite."
"Doing creative dramatics of 'Ali Baba and the Forty Thieves.'"
"When we looked up the meaning of our names."

The response of children to a librarian-centered reading guidance program is positive. The fifth grade participants reported liking the period almost without exception.

Reading Records and Reading Wheels

The response to these two devices was varied. An examination of the reading records confirm the variations in extent of interest in keeping the records and the amount of reading done by the participants. A number of the respondents reported fewer than ten books recorded in the Reading Record - and as many as ninety books. Observation by the librarian regarding the numbers of books charged out to certain members of the group and the numbers they reported as having finished confirms the extent of the individual differences in the scope of reading by individual members of the group.

An examination of the Reading Wheels supports these findings. However, many of the respondents classified a single book under a variety of categories such as family life, adventure and mystery which suggests some attempts at careful evaluation.

On the part of many of the participants, the keeping of these records appeared to be a motivating factor, as considerable interest was shown. However, these fifth grade pupils needed more supervision and assistance with both the records and wheels than was originally planned or provided.

Conclusion: The child who comes from a culturally underprivileged home reports very little interest in reading. It is to be doubted that he will "learn to like" to read by reading. When a variety of devices are used to achieve specific objectives, a start is made in developing greater interest in books.

PUNCH CARD - EXPERIMENTAL GROUP A

Date Nov. 13, 1967

Using ref. books		Practice in use of almanacs
		Almanacs
		Practice in use of maps, atlases
		Maps, atlases
		Practice in use of encyclopedias
		Encyclopedias
		General discussion
		Scope & arrangement of ea. type
		Dictionary
Loc. of current mat.		Discussion of newspapers
		Discussion of magazines
		Practice in use of R.G.
		Use of Reader's Guide
		Newspapers - use
		Magazines - use
How to locate books in lib.		Location of A-V materials
		Use of indexes to literature forms
		Practice in use of catalog
		Use of card catalog
		Practice in locating books
		Dewey System
		General Arrangement
How to use and enjoy books		Illustrators & illustrations
		Parts of a book
		Book displays
		Colophons
		Authors, dedications, etc.
		Making of books
		Time for choosing books
		Reading Records
		Fiction Non-Fiction
		Instruction in handling books

Comments

1. Brief reports on Frontier Dr. & mountain men.
2. Spent time on Reading Records, Reading Wheels, library projects in the social studies.
3. Talked more about Johnny Tremaine.
4. Talked about heros & legendary heros.
5. Had report on Mr. Revere
6. Saw film strip of Johnny Appleseed & will continue this next week.
7. Saw film strip of Paul Revere.
8. Children crazy over book collages.
9. Beginning creative writing, I was a boy with Cartier.

Book Introductions	●	Techniques for Guidance
Book discussions	●	
Creative dramatics		
Reading aloud		
Role playing		
Multi-media approaches	●	
Displays & lists		
Contacts with teachers	●	Curriculum Relationships
Class related reading	●	
Outlining		
Note taking		
Locating information		
Organizing information		
Interpreting information		
Reading conclusions		
Listening to stories		Activities Pursued by Pupils
Introducing books		
Discussing books		
Making collages		
Making lists of favorite books		
Poetry Contest		
Creative Writings		
Making title pages		
Keeping Reading Records		
Verse Speaking		
Dramatizing stories		
Selecting books for leisure reading		
Doing work sheets on library learning skills		
Making lists of favorite words		

APPENDIX II

GROUPING

APPENDIX II

TABLE 34

PUPIL ASSIGNMENT TO GROUP A

Stephen L. 5.3*	Mike M. 4.7	Mike G. 2.8	Jerry N. 1.7	Beverly H. 11.1
Cheryl M. 2.6	Eva H. 1.7	Cynthia H. 1.0	Sandy M. 1.0	James H. 11.0
Willie B. 9.5	Scott M. 2.9	Gary D. 2.7	Richard W. 2.5	Robert G. 1.6
William R. 1.0	Kim K. 1.6	Brenda W. 1.0	Steve H. 4.0	Dale M. 2.9
Warren K. 1.4	Cecilia S. 11.0	Tonda G. 5.8	Jan J. 3.9	Edith S. 2.4
Colby R. 2.1	Donna B. 1.0 1.0			

* Grade Equivalent of Reading Eye Score

TABLE 35

PUPIL ASSIGNMENT TO GROUP B

Jamie P. 6.6	Freddie L. 5.8	James B. 4.1	Richard H. 2.5	Audie C. 1.8
Denise H. 3.5	Rebecca B. 1.5	Karen D. 1.3	Terry B. 13.2	Mike B. 1.4
Tommy W. 1.3	Shirley H. 5.6	Melissa Y. 3.4	Rhonda M. 1.8	Patsy A. 1.8
Donnell K. 1.0	Gary B. 10.7	Donald H. 7.3	Richard K. 2.6	Ronald B. 2.5
Randall C. 1.9	Wade T. 1.7	Laura M. 4.0	Pamela W. 3.5	Cheryl G. 1.8
Estella D. 1.0				

* Grade Equivalent of Reading Eye Score

TABLE 36

PUPIL ASSIGNMENT TO GROUP C

Ronnie S. 6.0	Donald P. 3.5	Charles W. 1.8	Dennis F. 1.4	Nancy W. 6.5
Sherrie P. 3.2	Mary Ann W. 2.2	Nancy O. 1.4	Billy R. 1.8	Gary W. 1.4
Danny M. 1.0	Donald H. 1.0	Steve H. 1.0	Delores W. 13.2	Carol S. 8.1
Brenda B. 3.0	Judy W. 2.0	Greg R. 14.0	Hal C. 3.1	James E. 1.4
Fred Z. 1.1	Barbara B. 5.0	Jacqueline W. 4.7	Shirley H. 3.0	Leney B. 2.2
April P. 2.1				

* Grade Equivalent of Reading Eye Score

TABLE 37

ASSIGNMENT OF STUDENTS FROM CLASSROOMS TO RESEARCH GROUPS ACCORDING TO READING EYE GRADE EQUIVALENT SCORES

Group	X Classroom		Y Classroom		Z Classroom	
	Boys	Girls	Boys	Girls	Boys	Girls
A	5.3	11.1	11.0	1.6	4.0	11.0
	4.7	3.9	9.5	1.0-	2.9	5.8
	2.8	2.6	2.9		1.4	2.4
	1.7	1.7	2.7			2.1
		1.0	2.5			1.0-
		1.0-	1.6			
			1.0-			
B	6.6	3.5	13.2	5.6	10.7	4.0
	5.8	1.5	1.4	3.4	7.3	3.5
	4.1	1.3	1.3	1.8	2.6	1.8
	2.5			1.8	2.5	1.0-
	1.8			1.0-	1.9	
					1.7	
C	6.0	6.5	1.8	13.2	14.0	5.0
	3.5	2.2	1.4	8.1	3.1	4.7
	1.8	1.4	1.0	3.0	1.4	3.2
	1.4		1.0-	2.0	1.1	3.0
			1.0-			2.2
						2.1

TABLE 38

NUMBER OF BOYS AND GIRLS ASSIGNED FROM EACH CLASS TO THE RESEARCH GROUPS

Class	Group A		Group B		Group C	
	Girls	Boys	Girls	Boys	Girls	Boys
X	4	6	5	3	4	3
Y	7	2	3	5	5	4
Z	3	5	6	4	4	6
Total	14	13	14	12	13	13

APPENDIX III

EYE MOVEMENT PHOTOGRAPHY

APPENDIX III

EYE MOVEMENT PHOTOGRAPHY

As reported in related research, Chapter I, and in Methodology, Chapter II, the decision to group the children according to results of eye movement photography came as a result of reading reports of Earl L. Taylor,[1] Director of the Reading and Study Skills Center in New York City, Miles A. Tinker[2] and Stanford E. Taylor of the Educational Developmental Laboratories.

As defined by the Educational Developmental Laboratories:

> "Reading is a wonderfully complex process, a perfect interaction between the functional and interpretive factors. The reader coordinates his eyes as he moves them along the lines of print in a left-to-right fashion, stopping to perceive words or word-parts which he continuously adds up into thought units. He interprets what he reads in light of his background, associates it with past experience and projects beyond it in terms of ideas, judgments, applications and conclusions.
>
> When we take a picture of a person's eye movements while reading we capture a reflection of the reading process on film and through an analysis of the pattern his eyes made on film, we learn much about his basic organization and effectiveness."[3]

Educational Developmental Laboratories also states:

> "that eye-movements themselves are not greatly subject to conscious control; therefore, the pattern that is captured on the film will be more typical of a person's present level of development than almost any other reading test in use today."[4]

---

[1] Earl L. Taylor, "Grouping Pupils and Adults in Terms of Sight Vocabulary and the Fundamental Reading Skill," Journal of Developmental Reading, VII (1963), 164-171.

[2] Miles A. Tinker, "Eye-Movements in Reading," Journal of Educational Research, XXX (1936), 241-277.

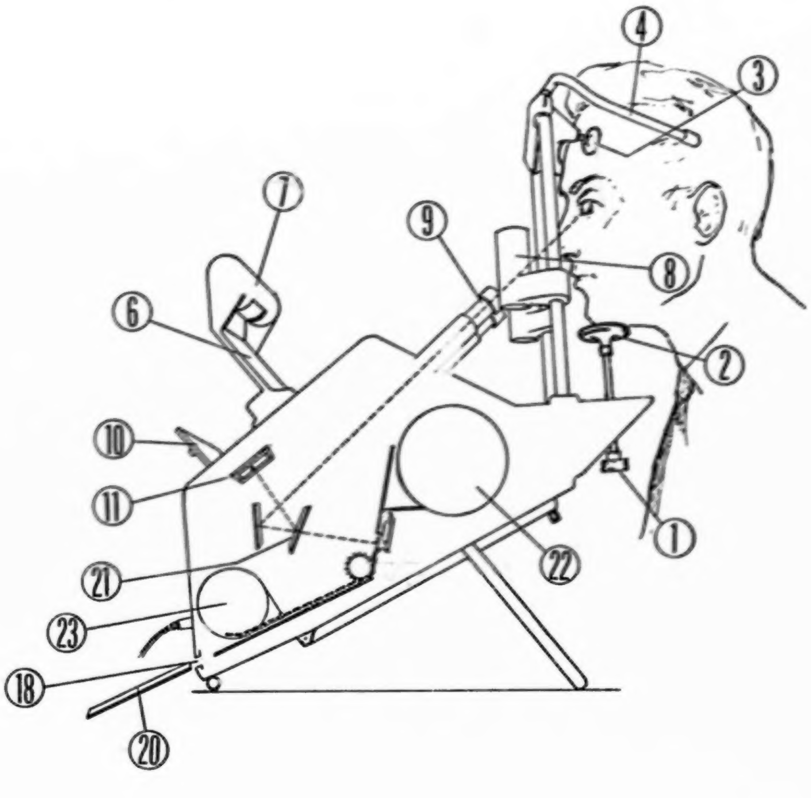
[3] Stanford E. Taylor, Eye Movement Photography with the Reading Eye (Huntington, N.Y.: Educational Developmental Laboratories, 1960), p. 1.

[4] Ibid., 2.

Reading Eye Operation

In order to put the subjects at ease as much as possible, they were given a simplified explanation of the photography process. They were also given a test selection to read similar to the one they would be reading before the camera. The first day, fourth grade material was used but because 70 per cent comprehension was not being achieved, the decision was made to use third grade material for all subjects.

The operation of the camera is described in the illustration and explanation below.

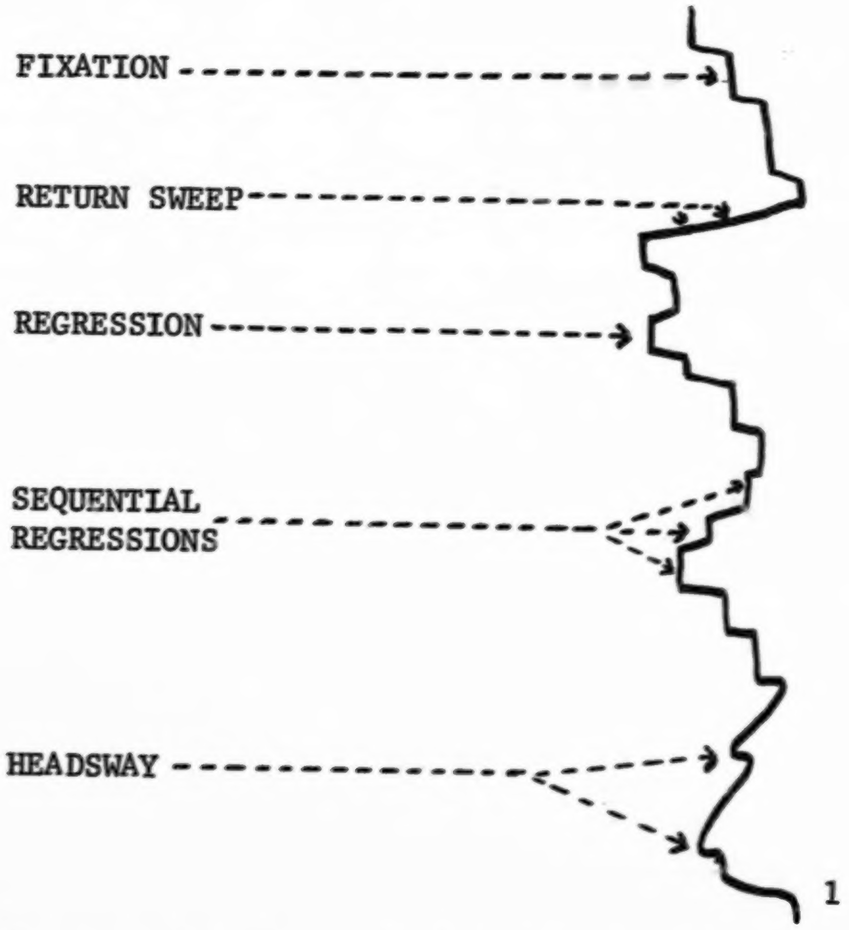


The subject sits, placing his chin on the chinrest (2), his forehead against headrest pads (3). The head steadiers (4) are swung into position against his head. As the subject reads the test selection held in test selection holder (6), illuminated by reading light (7), recording lights (8) cause beads of light to form on the cornea of his eyes. These beads of light pass through telescoping lenses (9) to mirror (21) from which they are deflected upwards to reflex aperture (11) for alignment and focusing or downwards to be recorded on film. To record, reflex aperture door (10) is closed, recording lights dim, and film moves at a continuous rate from film supply spool (22) by recording aperture and into the take-up magazine (23). At the completion of each photograph, the I.D. marker bearing the subject's initials is inserted into the I.D. marker entrance (18), and the initials are flashed onto the graph electronically.[1]

---

[1] Ibid., 14 (Reprinted from Eye Movement Photography with the Reading Eye, by Stanford E. Taylor, by permission of Educational Developmental Laboratories, Inc., Copyrighted 1960. Permission to reproduce this copyrighted material has been granted by Educational Developmental Laboratories, Inc. to the Educational Research Information Center (ERIC) and to the organization operating under contract with the Office of Education to reproduce ERIC documents by means of microfiche or facsimile hard copy, but this right is not conferred to any user of ERIC materials. Reproduction by users of any copyrighted material contained in documents disseminated through the ERIC system requires permission of the copyright owner.

Analysis of Reading Graphs



[1]

Eye movements are calculated by counting the vertical lines for each line of print as shown in the above illustration. The vertical lines are known as fixations (looking at a word) and regressions (re-reading a word). The return sweep signifies the eye-movement from the end of one line to the beginning of the next. For grade levels one through three, the reading selections consist of fifty word cards, so the number of fixations and regressions is doubled for the computations which are based on one hundred words. After reading the selection before the camera (the pupil previously practiced reading a selection as a warm-up away from the camera), the subject is then asked ten questions to which he answers "yes" or "no". If he is 70 per cent correct, he is considered to have read with comprehension.

The next step is to calculate the rate of words read per minute. This can be done by measuring the individual's tape on a table already computed, or after measuring the tape with a ruler the following formula can be used:

$$\text{Rate} = \frac{6000}{\text{length of countable lines in inches} \times 2.5}$$ [2]

---

[1] Ibid., 39.

[2] Ibid., 48.

When the fixations and regressions and the rate are computed, the following formula is used to calculate the relative reading efficiency:

$$R.E. = \frac{\text{Rate (w.p.m.)}}{\text{Fixations per 100 words + Regressions per 100 words}}$$ [1]

The relative efficiency rate is then compared with grade level averages on a chart of national norms derived from a study of twelve thousand cases.

The subjects in this Study were all tested at the third grade level for purposes of ease at the camera and for 70 per cent comprehension. The results were as follows:

TABLE 39

RELATIVE READING EFFICIENCY (GRADE EQUIVALENT)
OF FIFTH GRADERS USING THIRD GRADE MATERIAL

September, 1967		May, 1968	
Number of Subjects	Grade Equivalent	Number of Subjects	Grade Equivalent
1	14	1	18
2	13	1	17
3	11	1	14
1	10	4	13
1	9	2	12
1	8	2	11
1	7	2	10
3	6	5	9
5	5	2	8
5	4	4	7
9	3	1	6
15	2	7	5
24	1	5	4
8	0	8	3
		11	2
		10	1
		6	1.0-

Of the 79 fifth grade children tested in September, 1967, at the third grade level, 18 were reading at or above fifth grade equivalent efficiency or 23 per cent.

In May, 1968, of 72 subjects tested at the third grade level the results showed the following: 33 were reading at or above fifth grade equivalent efficiency or 56 per cent.

---

[1] _Ibid._, 49.

It can be seen from Table 39 that with only 23 per cent of the pupils reading at or above the fifth grade equivalent of the relative efficiency, both the majority of the pupils and the librarian were at a disadvantage in a reading guidance program planned for an average fifth grade.

In September, 1967, 23 per cent were reading at or above grade level (5.0) and in May, 1968, 36 per cent were reading at or above grade level (5.8), a gain of 13%. This increase could have been much higher had it been possible to use the appropriate correctional devices in a reading acceleration program and to give the total sample a librarian-centered reading guidance program. This is indicated by the fact that the mean grade equivalent gain on Relative Efficiency varied as follows:

Group A (Librarian-centered reading guidance program) -	2.43
Group B (Traditional library program) ----------------	2.0
Group C (No library program) ------------------------	1.27

Observations

During the pre-testing period there seemed to be, on the first day, some apprehension concerning the Reading Eye Camera. However, it soon became apparent that the pupils had learned that there was no cause for fear. In fact, they nicknamed the camera "the grasshopper."

The book circulation habits of two members of Group A were particularly noticed by the principal investigator. Beverly at every opportunity checked out three books. Jan very seldom checked out any books on her own initiative and perhaps one only if encouraged to do so.

In checking out these girls' records it was found that Beverly's I.Q. was 111 and her R.E. (on 3rd grade material) was 11.1 grade; whereas Jan's I.Q. was 122 but her R.E. (on 3rd grade material) was 3.9. Although it is realized that we cannot generalize from this one specific pair, at the same time good research does not ignore observations made.

In May, Beverly's relative reading efficiency on 3rd grade material was recorded at 18.3, an apparent gain of 7 years, 2 months; whereas Jan's relative reading efficiency on 3rd grade material was recorded at 4.3, a gain of only 9 months.

It would appear that Beverly's exceptional interest in reading coupled with her high level of efficiency plus the motivation provided by her Group A experience more than compensated for her lower I.Q.

Recommendation

Based on the reading eye findings, the following recommendation is made for those elementary school administrators who wish to have a reading program of optimum benefit to the pupils:

The relative efficiency of pupils' eye movements in reading should be determined and a correctional program instituted where it is deemed necessary. This, coupled with the classroom teaching of reading which is coordinated with a developmental reading guidance program in the library, should provide the optimum conditions for a _total_ school reading program.

APPENDIX IV

INSTRUMENTS USED IN OBTAINING PUPIL REACTIONS TO LIBRARY EXPERIENCES

APPENDIX IV

INSTRUMENTS USED IN OBTAINING PUPIL REACTIONS TO LIBRARY EXPERIENCES

MY READING RECORD

Sept. 1967 - June 1968

Name Betsy Smith

	Author	Title
1.	Stevenson, Augusta	Carver, George Washington

Note:

	Author	Title
2.	Baker, Nina (Brown)	Pike of Pike's Peak

Note:

	Author	Title
3.	Mulock, Dinah Marie	Little Lame Prince

Note:

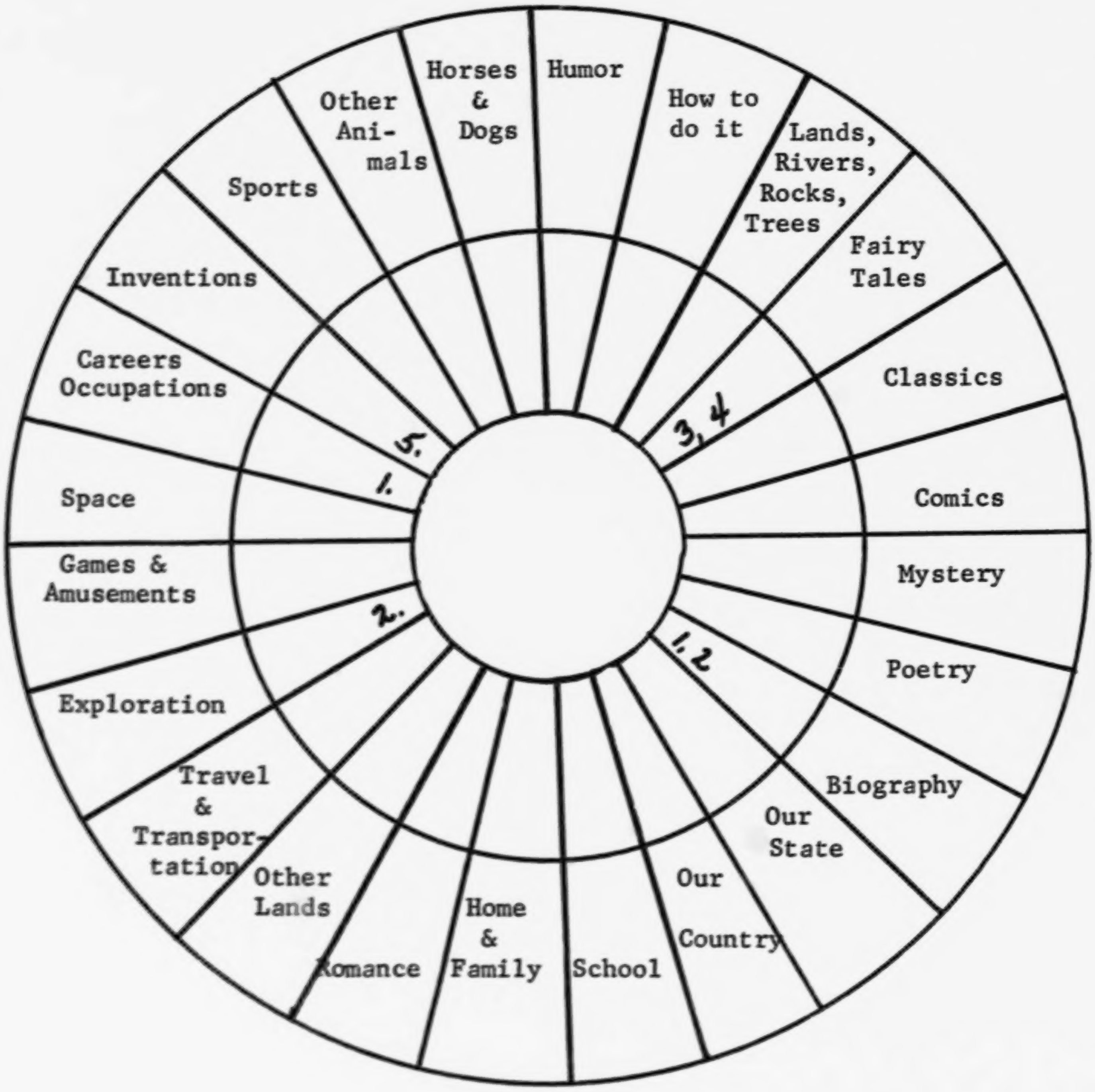
	Author	Title
4.	Perrault, Charles	Cinderella

Note:

	Author	Title
5.	Pratt, John Lowell	Sport, Sport, Sport

Note:

MY READING WHEEL


Horses & Dogs
Humor
How to do it
Lands, Rivers, Rocks, Trees
Fairy Tales
Classics
Comics
Mystery
Poetry
Biography
Our State
Our Country
School
Home & Family
Romance
Other Lands
Travel & Transportation
Exploration
Games & Amusements
Space
Careers Occupations
Inventions
Sports
Other Animals
5.
1.
3, 4
2.
1, 2

A READING INVENTORY

Name:____________________________
Age: ____________________________
Sex: ____________________________
Date: ___________________________

1. My three wishes: What are they?

   a)
   b)
   c)

2. What do I like best in school? ____________________________________

3. What do I like least in school? ___________________________________

4. What do I like to do outside of school? Check the boxes in order of your preferences, 1, 2, 3, 4, 5.

   ☐ Play games or sports ☐ Go to movies

   ☐ Watch T.V. ☐ Read

   ☐ Talk to friends

5. Did you ever try to act like a character in a book? ______________

   Which one?____

6. How many hours a day do I watch T.V.

   ☐ 1 to 2 hours

   ☐ 3 to 4 hours

   ☐ more

7. Are you reading a book now?

   ☐ Yes ☐ No

8. If yes, give the title: ____

9. If no, give the title of the last book you read: __________________

   ____

10. Did you like the book?

☐ Yes ☐ No

11. Why? ____

12. How did you happen to read this book?

☐ Found it yourself in the library
☐ Found it at home
☐ Suggested by a teacher
☐ Suggested by a librarian
☐ Suggested by a friend

13. Have you ever found a character or situation in a book that seemed to fit you or your experiences?

What character? ______________________________

What book? ______________________________

LIBRARY REGISTER

Grade	Name	Teacher	Book

BOOK CIRCULATION DURING REGULAR LIBRARY PERIODS

DATE ______	GROUP ______	DATE ______	GROUP ______
Fiction	______	Fiction	______
Reference	______	Reference	______
Biography	______	Biography	______
Easy	______	Easy	______
100	______	100	______
200	______	200	______
300	______	300	______
400	______	400	______
500	______	500	______
600	______	600	______
700	______	700	______
800	______	800	______
900	______	900	______
Total	______	Total	______

INDEPENDENT CIRCULATION

DATE ______

	GROUP A ( )	GROUP B ( )	GROUP C ( )
Fiction	______	______	______
Reference	______	______	______
Biography	______	______	______
Easy	______	______	______
100	______	______	______
200	______	______	______
300	______	______	______
400	______	______	______
500	______	______	______
600	______	______	______
700	______	______	______
800	______	______	______
900	______	______	______
Total	______	______	______

QUESTIONNAIRE TO EVALUATE PUPIL REACTIONS TO EXPERIENCES AT THE TAMPA BOOK FAIR

1. What did you like best about going to the Book Fair?
2. What did you like least?
3. How did you feel about it.

QUESTIONS ABOUT THE READER'S GUIDE [1]

1. What is your favorite magazine? ______________________________

2. Can you give two reasons why you enjoy it?

   (1)___________________________________
   (2)___________________________________

3. Why can't you always find the same material in books that you find in magazines? ______________________________
   ____

4. Why will the Reader's Guide be such a valuable tool for you when you go to Junior High School? ______________________________
   ____

5. If you wanted to find the very latest information on our proposed moon flight, where would you look? Check one.

   ☐ Books ☐ Magazines

6. Is the Reader's Guide arranged like the card catalog - alphabetically by author, title, subject?

   ☐ Yes ☐ No

7. What exact information is given after the author and title of a magazine article in the Reader's Guide that helps you find the information you seek or the article in a magazine you wish to locate? Underline those that are correct.

   a. Name of magazine
   b. Classification number
   c. Date of magazine
   d. Pages on which article appears

8. Why is the index called, An Index to Periodical Literature?
   ____

9. Is every magazine that you can buy at a big newstand listed in the Reader's Guide? Check one.

   ☐ Yes ☐ No

---

[1] Florence D. Cleary, Discovering Books and Libraries, (New York: The H. W. Wilson Company, 1966), p. 69.

WORK SHEET[1]

The Encyclopedia

1. How are encyclopedias arranged? Check one.

   ☐ Alphabetically ☐ Index

2. Will an encylopedia give you all the information you need on a subject?

   ☐ Yes ☐ No

3. To what other sources might you go for information on a subject for a report? Check those you might use.

   ☐ Books ☐ Newspapers

   ☐ Magazines ☐ Filmstrips ☐ People

4. Will your encyclopedias have articles or reports on all men living today, men like senators, ball players, singers on T.V.?

   ☐ Yes ☐ No

5. What words are placed at the top of each page of an encyclopedia to help you find material quickly?

   ____

   Why are they called KEY WORDS? ____________________

6. Why are letters placed on the back of each volume of the encyclopedia?

   ____

7. See if you can find an article in the encyclopedia you are using that has the words, SEE ALSO, at the end of the article. What information follows those words?

   ____

   ____

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[1] Florence D. Cleary, Discovering Books and Libraries (New York: The H. W. Wilson Company, 1966), pp. 98-99.

LIBRARY WORK SHEET[1]

1. The next time you are in the library use your list of classification numbers below and see if you can locate some interesting books in each of the ten subject classes or divisions. You will note that encyclopedias which are classified under General works have a number like this: 030. These books are usually kept in a section of the library by themselves. All other nonfiction books are arranged on the shelves beginning with the 100's and continuing along the shelves in numerical order.

	Author	Title
100		
200		
300		
400		
500		
600		
700		
800		
900		

2. Go to the library shelves. Find one book for each number listed below. You may wish to examine the book, write its title and, perhaps, read it.

	Title		Title
292		670	
380		740	
510		917	
530		973	
570		980	

---

[1] Florence D. Cleary, Discovering Books and Libraries (New York: The H. W. Wilson Company, 1966), pp. 47-49.

3. Arrange the following books of fiction as you will find them on a library shelf by numbering them 1, 2, 3, etc.

	Enright	The Saturdays
	O'Dell	Island of the Blue Dolphins
	O'Brien	Silver Chief
	Henry	Misty
	North	Rascal
	Clemens	Adventures of Tom Sawyer
	Gipson	Old Yeller
	Vining	Adam of the Road
	Tunis	All American
	Cleary	Fifteen
	DeJong	House of Sixty Fathers
	Heinlein	Have Space Suit--Will Travel
	Meader	Boy With a Pack
	Sandoz	The Horsecatcher

4. Arrange the following numbers in the order in which the books having these numbers would be arranged on the shelves: 946, 170, 680, 398, 810, 550, 910, 320, 973, 800, 595, 537, 670, 220.

5. Look back to the list of the ten main classes of the Dewey numbers and see if you can assign a class number to the books listed below. (Example: Mr. Wizard's Science Secrets - 500)

	Classification Number
First Book of the American Revolution	
Travels of Birds	
Opera Stories from Wagner	
Andersen's Fairy Tales	
The Bible	
Snakes Alive and How They Live	
Rockets Around the World	
Poems for Youth	
First Book of Jazz	

BETWEEN THE COVERS OF A BOOK[1]

1. Before beginning to read a book, look it through carefully. Notice the information on the title page. Check the table of contents, list of illustrations, index. Is the form and arrangement of the book appropriate to its contents? If you like the book, you may wish to read others by the same author or about the same subject. Something in the book may cause you to explore books by other authors and on other subjects. It is pleasant to read widely.

2. Test yourself on the following questions:

   a. Name the different parts of a book. How are these parts arranged? Why are they so arranged?

   b. Why is the copyright date important?

   c. How is the index arranged? Where is it found? What information follows each listed subject or topic? Why is this information so useful?

3. Examine a number of books on the shelves of a library and make a list of interesting dedications. Note the authors and titles of the books. If a number of your classmates do this, ask the librarian if you can plan and arrange a bulletin board display of these dedications. The display may include, in addition to the dedications, copies of the title pages and pictures of the authors.

4. Re-read the first paragraph of Chapter 2. Would you agree that the BOOK may be a revolutionary teaching tool for those who know how to use it efficiently and for those who love to read because they have really learned how?

---

[1] Florence D. Cleary, Discovering Books and Libraries (New York: The H. W. Wilson Company, 1966), pp. 38-39.

QUESTIONS TO THINK ABOUT

1. What was the most exciting incident in the book? ______________________

____

2. How would you feel if it happened to you? ______________________

____

3. Would you like to have been the main character in the book?

☐ Yes ☐ No

Why? ____

____

4. What did the story mean to you? ______________________

____

5. How did the book make you feel? ______________________

____

6. What did you learn? ______________________

____

DICTIONARIES

1. Choose your favorite word and write it here. ____________________

2. Copy from the dictionary the meaning that is given first. ______

   ____

3. Copy another meaning that you find under the word. __________

   ____

4. Why does the first meaning appear first in the dictionary? _____

   ____

   ____

5. How many meanings are given under the word you have chosen? ____

6. How does the dictionary help you in pronouncing the word correctly? ____

   ____

7. Following each word are abbreviations which stand for the parts of speech: n. for noun; v. for verb; adj. for adjective.

   a. Write the abbreviations you find for your word __________

   b. Why do some words have more than one abbreviation? ________

      ____

      ____

8. Use the word you have chosen in a sentence. ________________

   ____

   ____

   In your sentence above, is the word you have chosen used as a noun, verb, adjective or adverb? ______________________________

9. Following the definition of the word, you will discover a number of words similar in meaning. Usually the abbreviation syn. (synonym) precedes or follows the word. Write the synonyms that you find for your word.

____

____

10. Enclosed in brackets following each word, the original form of the word is given. Thus each word is traced back through earlier languages to its origin. For example, school (from Greek word schole meaning leisure).

    a. Write the history (etymology) of your word. ________________

    ____

    ____

11. What is the difference between an abridged and an unabridged dictionary? ____

____

12. In an unabridged dictionary there are many special features such as:

    a. Illustrations
    b. Lists of important places and people
    c. Foreign words and phrases
    d. Figures of population
    e. Guide to pronunciation and abbreviations used.

    Check those you find in the dictionary you are using.

PART II

13. It takes so long to locate a word in the dictionary. There are three ways that make it easier:

    1. Know your alphabet
    2. Use the thunb index
    3. Use the key words.

    a. Alphabetize the names of the following authors by numbering their names 1, 2, 3, etc.

    Terhune
    North
    Adams
    Robinson
    Roberts
    Appel
    Levin

    Clay
    Clayton
    Mariyat
    Stratton
    Veglehn
    O'Dell
    Obie

    b. What is a thumb index? ______________________________

    ____

    ____

    c. What is meant by key words in the dictionary? __________

    ____

    ____

WHAT IS YOUR OPINION?

1. Try to remember how much you read last year, and answer this question. Do you think you read more books this year than last year? Check the correct box.

☐ More this year ☐ Fewer this year

2. Of all the books you charged out of your school library, how many did you read all the way through?

☐ All of them ☐ Fewer than half

☐ Half of them ☐ Don't remember

3. Did you enjoy your library periods this year? Check one.

☐ Yes ☐ No ☐ Sometimes

4. Among some of the things we did in the library, check 1, 2, 3, 4, 5, in order of those you liked best. Place a 1 in the box you enjoyed most, a 2 in the box you liked second best and on up to 5.

☐ Creative Dramatics ☐ Having books introduced

☐ Listening to Stories ☐ Talking about books

☐ Watching films and filmstrips

5. Of all the things you did, what did you enjoy most? Place a 1, 2, 3, 4, or 5 in the boxes in the order of your choices.

☐ Introducing books ☐ Making collages

☐ Talking about books ☐ Reading poems

☐ Doing social studies projects

6. Would you like to continue library periods next year like the ones we have had this year?

☐ Yes ☐ No ☐ Don't care

7. Do you remember any one library period you liked the most this year? What did we do? ____

____

____

APPENDIX V

PRINCIPAL'S EVALUATION

APPENDIX V

COPY

WEST ZEPHYRHILLS ELEMENTARY SCHOOL
FIRST STREET AND THIRTEENTH AVENUE
ZEPHYRHILLS, FLORIDA 33599
PHONE 782-1546

Ferd E. Renninger, Principal

June 21, 1968

Mrs. Florence Cleary
College of Education
University of South Florida
Tampa, Florida 33620

SUBJECT: Evaluation of Library Centered Reading Program

The program, instigated in our school during the 1967-68 school year, was a great success. Many positive results and attitudes are easily visible to me at this time.

The effect of having the university people in our school, and the activities in the library seemed to encourage the children to be more interested in books.

Our staff was in constant contact with Mrs. Cleary and Mrs. Allen, and they had many helpful suggestions for the teachers on methods to encourage more reading by the children. The staff became very much interested in improving our reading instruction through using the library as a resource center.

The results of the early testing completed for the study did show a very definite need for improvement in the reading program.

Perhaps the most significant result of the program was to make us realize that children do not spend enough time reading at home to keep the skills taught in school sharp and useful. We teach them to read as a skill then neglect to instill in them the love of books and reading for pure enjoyment and relaxation. To live the adventures of books is an adventure in itself which can give many years of self-satisfaction.

The schools of today desperately need reading programs centered aroung the library. The teaching of reading skills must be combined with teaching of reading for enjoyment as well as a useful tool for further education.

Ferd E. Renninger

Ferd E. Renninger
Principal

APPENDIX VI

TREND ANALYSIS OF THE SKEWED DISTRIBUTION AS DETERMINED BY COMPARISON OF THE MEAN AND MEDIAN CHANGES BETWEEN THE SEPTEMBER, 1967, PRE-TEST AND MAY, 1968, POST-TEST ON THE DURRELL ANALYSIS OF DIFFICULTY, IOWA EVERY-PUPIL TEST OF BASIC SKILLS AND GATES READING SURVEY

APPENDIX VI

TREND ANALYSIS OF THE SKEWED DISTRIBUTION AS DETERMINED BY COMPARISON OF THE MEAN AND MEDIAN CHANGES BETWEEN THE SEPTEMBER, 1967, PRE-TEST AND MAY, 1968, POST-TEST ON THE DURRELL ANALYSIS OF DIFFICULTY, IOWA EVERY-PUPIL TEST OF BASIC SKILLS AND GATES READING SURVEY

As reported in Chapter III, a non-parametric chi square median test was run because some very deviant scores were revealed by the analysis of variance. Thus the comparison of the mean and median gain has meaning. For example, if the mean gain is higher than the median gain of that group, the indication is a skewed distribution in a positive direction (favoring the academically talented). And conversely, if the mean gain is lower than the median gain, the distribution is skewed in a negative direction (hindering the slower learner).

The distributions in many of the sub-tests given in this Study were skewed. Since this was a pilot study with a small sample, significance was not reached at the .05 level. The same difference between mean and median, but with a large sample, would in some instances have yielded significance.

Considering the sub-tests on which the difference between the mean and median gain was particularly noticeable, Table 40 shows the total number of areas on the Durrell Analysis of Difficulty, Iowa Every-Pupil Test of Basic Skills and Gates Reading Survey in which the distributions were skewed.

TABLE 40

FREQUENCY OF HIGHLY SKEWED DISTRIBUTIONS ON THE DURRELL ANALYSIS OF DIFFICULTY, IOWA EVERY-PUPIL TEST OF BASIC SKILLS AND GATES READING SURVEY

Group	(+) Skewed Mean > Median	(-) Skewed Median > Mean
	No. of areas in which the academically talented were favored	No. of areas in which the slower learners were hindered
A	(+) 11	(-) 1
B	(+) 7	(-) 4
C	(+) 6	(-) 4

It can be seen in Table 40 that the program of Group A appreciably helped the academically talented in a total of eleven areas on all three testing instruments as compared with seven for Group B's program and six for the program of Group C (ratio, 11, 7, 6).

Tables 41, 42, and 43, which consider the Durrell Analysis of Reading Difficulty, Iowa Every-Pupil Test of Basic Skills and Gates Reading Survey tests separately, specify which areas were affected either positively or negatively by the different group experiences.

TABLE 41

GROUP PROGRAMS YIELDING HIGHLY SKEWED DISTRIBUTIONS ON THE DURRELL ANALYSIS OF READING DIFFICULTY

Test Area		(+) Skewed Mean > Median	(-) Skewed Median > Mean
		Program favoring academically talented	Program favoring the slower learner
Reading:	Oral	A, C	B
	Silent	A, B	C
Words:	Listening	None	A, B, C
	Flash	A, B	None
	Analysis	A, B	None
	Spelling	None	None

TABLE 42

GROUP PROGRAMS YIELDING HIGHLY SKEWED DISTRIBUTIONS ON THE IOWA EVERY-PUPIL TEST OF BASIC SKILLS

Test Area	(+) Skewed Mean > Median	(-) Skewed Median > Mean
	Program favoring academically talented	Program favoring the slower learner
Map Reading	C	B
Reference	C, A	None
Index	None	None
Dictionary	A	None
Use of Graphs	B, A, C	None

TABLE 43

GROUP PROGRAMS YIELDING HIGHLY SKEWED DISTRIBUTIONS ON THE GATES READING SURVEY

Test Area	(+) Skewed Mean > Median	(-) Skewed Median > Mean
	Program favoring academically talented	Program favoring the slower learner
Speed	A, C	B
Accuracy	B, C, A	None
Vocabulary	A, B	C
Comprehension	A, B	C

The areas in which the academically talented child was helped by the librarian-centered reading guidance program were: oral reading, silent reading, recognition and analysis of words, use of reference books, use of the dictionary, use of graphs, speed, accuracy, vocabulary and comprehension.

The traditional library period experience by Group B tended to favor the academically talented in the following areas: silent reading, recognition and analysis of words, use of graphs, accuracy, vocabulary and comprehension.

The academically talented pupils in Group C were favored in the following areas: map reading, use of reference books, use of graphs, speed, accuracy and oral reading.

Not only did the librarian-centered reading guidance program show a trend toward favoring the academically talented pupils, but it also tended to hinder the slower learner less than did the programs of Groups B and C in the ratio of 1, 4, 4.

In the previous discussion of Tables 41, 42 and 43, the question as to whether or not a group program appreciably favored the academically talented was considered. If attention is directed toward which group favored the academically talented child the most in each sub-area, it can be seen that Group A excelled in eight sub-areas, whereas Groups B and C excelled only in two sub-areas each. Using a chi square test this was found to be significantly different at the .05 level.

Similarly, Group A's program was the most harmful to the slower learner in one sub-area only, whereas the programs of Groups B and C were the most detrimental in three sub-areas each. Using a chi square test this did not reach the .05 level of significance.

In conclusion, it can be seen from the findings that the librarian-centered reading guidance program (Group A) not only enhanced the growth of the academically talented pupils more but also inhibited the slower learners less. It is noted that as far as the effect of the Group B and C programs on the academically talented and/or slower learners both had considerably less influence. Therefore, the Group A program is considered to have been most effective.

The information in this appendix demonstrates even more strongly than the data in Chapter III that the need for developing guidance programs in the elementary school library is great. It provides a tentative hypothesis to be tested in a larger study, i.e. a design of a full-scale research with tailor-made, coordinated, developmental reading guidance programs in the library to fit different levels of reading talents within the total population. The design and evaluation of such a program has been developed in Proposal Number 8-0830, "The Evaluation of a Library-Centered Developmental Reading Program in an Ungraded Primary School," which was written before all the findings in this research were completely analyzed. The data of this appendix strongly supports earlier observations of the researchers.

APPENDIX VII

STATISTICAL FORMULAS

APPENDIX VII

STATISTICAL FORMULAS

Analysis of Variance

$$CF = \frac{\left(\sum_{1}^{k} \sum_{1}^{n} x\right)^2}{N_x + N_y}$$

$$tot_{ss} = \sum_{1}^{k} \sum_{1}^{n} x^2 - CF$$

$$bg_{ss} = \frac{\left(\sum_{1}^{k} x\right)^2}{N_x} \quad \frac{\left(\sum_{1}^{n} x\right)^2}{N_y} - CF$$

$$wg_{ss} = tot_{ss} - bg_{ss}$$

Standard Deviation

$$s^2 = \frac{\Sigma x^2 - \frac{(\Sigma x)^2}{N}}{N - 1}$$

Chi Square

$$x^2 = \frac{(o - e)^2}{e}$$

SELECTED BIBLIOGRAPHY

1. American Association of School Librarians. Standards for School Library Programs. American Library Association, 1960, p. 18.

2. American Association of School Librarians Standards Committee. Notes taken at the meeting of June 28, 1968, American Library Association Conference, Kansas City, Missouri.

3. Austin, Mary C., and Morrison, Coleman. The First R. The Harvard Report on Reading in Elementary Schools. New York: MacMillan Company, 1963, pp. 2, 132, 232.

4. Betts, Emmett A., and Welch, C. M. Betts Basic Reader, Grade 4. Cincinnati: The American Book Company, 1965, p. 289.

5. Betts, Emmett A., and Welch, C. M. Betts Basic Reader, Grade 5. Cincinnati: The American Book Company, 1965, pp. 153-154.

6. Betts, Emmett A., and Welch, C. M. Betts Basic Reader, Grade 6. Cincinnati: The American Book Company, 1965, pp. 343-345.

7. Chansky, Norman. "Problems of Research in Reading," Journal of Developmental Reading. VII (1963), 102-117.

8. Cleary, Florence D. Discovering Books and Libraries. New York: H. W. Wilson Company, 1966, pp. 11-17, 21, 38-39.

9. Durrell, Donald D. Durrell Analysis of Reading Difficulty. New York: Harcourt, Brace and World, Inc., 1955.

10. El-Hargrasy, Saad M. "The Teacher's Role in Library Service," Journal of Experimental Education. XXX (1962), 347-354.

11. Gates, Arthur I. The Gates Reading Survey. New York: Bureau of Publications, Teachers College, Columbia University, 1960.

12. Gaver, Mary Virginia. Effectiveness of Centralized Library Service in Elementary Schools. New Brunswick, New Jersey: Rutgers University Press, 1963, pp. 97-100.

13. Gaver, Mary Virginia. "What Research Says About the Teaching of Reading and the Library," The Reading Teacher. XVII (1963), 184-191.

14. Gray, William S. "Improved Reading Programs," Education. LXXI (1951), 535-540.

15. Jersild, Arthur T., and Tasch, Ruth J. Children's Interests and What They Suggest for Education. New York: Bureau of Publications, Teachers College, Columbia University, 1949.

16. Spitzer, H. F.; Horn, Ernest; McBroom, Maude; Greene, H. A.; Linquist, E. F. (General Editor). Iowa Every-Pupil Test of Basic Skills. New York: Houghton Mifflin Company, 1965.

17. Taylor, Earl L. "Grouping Pupils and Adults in Terms of Sight Vocabulary and the Fundamental Reading Skill," Journal of Developmental Reading. VII (1963), 164-171.

18. Taylor, Stanford E. Eye Movement Photography with the Reading Eye. Huntington, New York: Educational Developmental Laboratories, 1960, pp. 1, 2, 14, 39, 48, 49.

19. Tinker, Miles A. "Eye Movements in Reading," Journal of Educational Research. XXX (1936), 241-277.

20. Swarthout, Charlene R. "An Approach to an In-Service Program to Develop the Concept of the School Library as Part of the Instructional System." (Ed.D. Dissertation, Wayne State University, 1966), pp. 3-4, 284-285.

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OFFICE OF EDUCATION

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The Effect of a Librarian-Centered Reading Guidance Program on the Reading Skills and Habits of Elementary School Pupils

PERSONAL AUTHOR(S)
Cleary, Florence D., Allen, Ruth S.

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ABSTRACT

Purpose of the study was to determine the effects of a librarian-centered reading guidance program on the reading habits and skills of elementary school pupils. Seventy-nine fifth graders in a rural Florida school were divided into three matched groups by eye-movement photography. Experimental Group A received a library reading guidance program and ten minute circulation privileges weekly. Experimental Group B had a scheduled library period, no formal reading guidance program and ten minute circulation privileges each week. Group C had ten minute circulation privileges only. Subjects were pre-tested in September, 1967, and post-tested in May, 1968. Reading habits, interests and attitudes were evaluated by an inventory which indicated marked changes all favoring Group A. The Durrell Analysis of Reading Difficulty, Iowa Every-Pupil Test of Basic Skills and Gates Reading Survey tested for reading skill changes. Sub-test gains equally favored Groups A and C but the .05 level of significance was not reached. A .05 level of significance was found for Group A for producing greater growth of the academically talented and less detrimental effect on the slower learners. Conclusions: (1) the traditional library period is ineffective, (2) school coordinated, librarian-centered developmental reading guidance programs (K-6) are needed, (3) relative reading efficiency of elementary school pupils must be improved for maximum benefit to be received from library programs.